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ORIGINAL LECTURES.

POPLITEAL ANEURISM.

A Clinical Lecture, delivered in the Hospital of the University of Pennsylvania.

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(Reported by LOUIS J. LAUTENBACH, M.D.)

GENTLEMEN: The case which I bring before you to-day is one which is interesting in relation to diagnosis as well as in regard to treatment. The case is one of aneurism of the popliteal artery.

The patient's history is that in 1878, somewhat over four years ago, he was shot in the calf of the left leg, the ball of a small pistol entering and passing upward. The scar of the wound is seen indistinctly; the wound was apparently trivial. From two to two and a half years after the injury, the patient noticed a small lump, which pulsated. The pulsation increased for some months, but he says that it is now not as marked as it has been.

The growth of the tumor, until three or four weeks ago, was very gradual, but about that time it began to increase rapidly, until it has attained the size which you now see; it is now about six inches in length and almost as much across.

Let us briefly go over the symptoms of aneurism and the diagnostic points which serve to distinguish it from other tumors. Various definitions of aneurism have been given by different writers; that which I consider the most accurate and, therefore, the most satisfactory, is that an aneurism is a disease of the arteries consisting in a circumscribed dilatation of one or more of the arterial coats. It is not merely a dilatation, since we frequently have general dilatation of the aorta without any aneurism. I do not refer here to the affection termed aneurism by anastomosis, but only to that which is designated by the word *aneurism* used by itself. Some authors have defined an aneurism simply as a tumor containing blood; but, according to this definition, a hæmatocele would be an aneurism.

The tumor here not only *pulsates*, but it has also an *expansive* pulsation, which can be felt by putting the hands on either side of the tumor, and which can be seen by noticing that the hands are pushed apart. If the tumor were a tense bursa, or a fibroid tumor, situated over the popliteal artery, the pulsation would simply be up and down; there would be no lateral pulsation. A very characteristic symptom of aneurism is the *aneurismal bruit*, which is caused by the blood entering the sac of the aneurism; a sound somewhat similar to that which is caused by blowing into a bottle, or which is produced by the rushing of any liquid into a cavity through a small opening. This symptom is not well marked in the present case, and its deficiency is probably due to the fact that the aneurism has reached the stage of what is known as a "diffused aneurism," or, as Mr. Barwell prefers to call it, a "consecutive aneurism." The sac proper of the aneurism has given way, but the condensed tissues outside of the arterial tunics have formed a wall to hold the blood. When the tumor is in this condition the bruit is not as marked as in the early stage. Beside the bruit, we often have present an *aneurismal thrill*. This is not universally present, and it is not found in this case.

There are other very important symptoms connected with the pulsation. Compression of the main artery above the aneurism causes flaccidity of the sac and cessation of the pulsation, but in the case of most tumors the size of the mass will not be diminished. Some vascular tumors will become softer and smaller, but may be distinguished from aneurisms by the way in which the pulsation returns when the pressure is removed. In a case of vascular tumor the pulsation returns gradually, while in aneurism the pulsation immediately returns, and is just as forcible as it was before the main artery was pressed upon.

Another point which is particularly illustrated by an aneurism in this situation is the difference in the degree of pulsation depending on the position of the limb. If there is an abscess or enlarged bursa over the artery in this situation, the pulsation becomes more distinct by straightening the limb, whereas the pulsation becomes less noticeable when the limb is flexed. In popliteal aneurism, however, you diminish the pulsation by straightening the limb, but when the limb is flexed it is more distinct. In nearly all cases of popliteal aneurism you find the pulsation increased by flexion. Another symptom, which is here well marked, is the diminution of pulsation below the tumor. This symptom is explained by the "stand-pipe" or "air-chamber" action of the aneurismal sac, the principle of which is applied in the steam fire engine and in the hydraulic ram. The stroke of the valve or piston corresponds to the stroke of the heart, and would cause, unless some means were taken to prevent it, an intermittent flow corresponding to the interrupted flow of blood when an artery is cut. By the elasticity of the air in the air-chamber the pressure is made constant, and the flow is equalized. Similarly, the elasticity of the aneurismal sac, by equalizing the blood-current, diminishes the pulsation in the distal portion of the artery.

The most important diagnostic marks of popliteal aneurism are then:

1st. Expansive pulsation;

2d. Stoppage of the pulsation and lessened tenseness of the sac by compression of the artery above the tumor;

3d. The suddenness with which the pulsation returns when the pressure is relieved;

4th. The thrill;

5th. The bruit;

6th. The diminution of pulsation below the tumor; and

7th. The increase of pulsation on flexing the limb.

In the large majority of cases where mistakes in diagnosis have been made, they have been due to careless examination. The mistake most commonly made is the mistaking an aneurism for a phlegmonous abscess. Even such an experienced surgeon as Pirogoff made this mistake. He was summoned in great haste to see a patient, whom he found to be suffering with an inflamed swelling of the calf of the leg, the tumor presenting many of the symptoms of an abscess. Pirogoff thrust a knife into the swelling, when arterial blood spurted out and revealed the true nature of the case.

As regards the treatment of popliteal aneurism, where there is an opportunity of employing digital compression this method should, as a rule, be fairly tried. If,

however, it is found that in a reasonable length of time no progress is made in the cure of the aneurism, and especially if the compression causes increased venous congestion, it should be abandoned, and the femoral artery tied. As at this hospital we can secure a large number of competent assistants, we nearly always make the attempt to cure popliteal aneurism by digital compression, and usually with success. In this case we began compression over the common femoral and the upper part of the superficial femoral artery at 8 o'clock P. M. last Sunday, and it was kept up almost unintermittently for thirty-six hours, but, I regret to say, without good results, though no harm was done. For a time the congestion of the limb was increased, but during the rest which the patient has had since, this has passed away, and he is pretty much in the same condition in which he was when the compression was begun. Possibly the tumor is a little larger than it was a week ago, but it is probably not larger than it would have been had we adopted no treatment whatever. At first I was very doubtful as to the propriety of attempting compression at all in this case, as the tumor was already a very large one, but concluded to give the patient the benefit of the doubt and make the attempt.

This aneurism, as I have already said, is what is ordinarily called a *diffused* aneurism, but which may be better termed, as it would be by Mr. Barwell, a *consecutive* aneurism. Mr. Barwell calls a diffused aneurism one in which the blood extends widely throughout the tissues of a limb. A consecutive aneurism is one in which the blood, though outside of the arterial walls, is still enclosed in an adventitious sac, formed by the condensation of the tissues surrounding the vessel. Here the blood has escaped from the true sac, but the clinical condition is not that of a diffused aneurism, as the blood is still surrounded by a firm wall of cellular tissue. An aneurism may undergo spontaneous cure, and in our treatment we endeavor to effect a cure in the same way as is done by nature. An aneurism may undergo spontaneous cure by the gradual deposition of laminated coagula, a gradual filling up of the aneurismal sac by the deposit of fibrinous matters—whether derived from the wall of the sac or from the contained blood, is still disputed. The clot is usually said to be derived from the blood in a manner akin to the separation of fibrin by "whipping" blood outside of the body, although some authorities believe the laminated coagulum to be produced by proliferation of the sac-wall. This is the most promising mode of spontaneous cure, and it is that which we attempt to imitate in instrumental and digital compression. It is also that which is aimed at in the Hunterian mode of ligation.

There are two modes of tying the artery on the cardiac side of the aneurism; in Anel's method the ligature is applied immediately above the sac, while in the Hunterian method the ligature is tied at a distance from the sac. The latter method is that which is now universally preferred. It is acknowledged to be the most favorable mode of ligation. After ligation by Anel's method, but one set of collateral vessels undergoes enlargement, namely, that which passes around the aneurismal sac itself. By Hunter's method, we have developed one set of vessels around the seat of ligation and one around the tumor. The process of cure by Hunter's method is not, as many suppose, by an entire arrest of circulation in the sac, but by a diminution in the amount of blood which finds its way into the sac, the slow flow of blood allowing a gradual deposition of coagulum in laminæ. In the case of Anel's method, where the blood is cut off entirely from the aneurismal sac, if coagulation occurs, all the blood coagulates at once, making a dark, soft clot, a "currant-jelly" clot, not as promising a mode of cure as that by the formation of a laminated coagulum. We may have a spontaneous cure effected in this way; but such a clot is apt to be redissolved, or may be followed by suppuration of the sac, which may lead to a fatal result. Moreover, when we have a soft clot formed in an aneurism, there is always danger of a fragment becoming detached and causing embolism of a branch beyond the sac, an occurrence which, if it may occasionally prove beneficial, is more often the cause of death. The cure by embolism is attempted in the mode of treatment by manipulation introduced by Sir William Fergusson.

Besides the two modes of ligating the artery on the proximal side of the aneurism, there are two methods of ligation on the distal side of the sac, known respectively as Brasdor's and Wardrop's operations. In Brasdor's method, the whole current of blood on the distal side of the sac is arrested; in Wardrop's operation, the entire circulation through the sac is not arrested, but the amount of blood is limited by tying one or more branches of the diseased artery. Thus, the distal ligation of the carotid for carotid aneurism would be an example of Brasdor's operation; but the ligation of the same vessel for innominate aneurism would be an illustration of Wardrop's. The cure in Wardrop's operation is effected by the gradual deposition of fibrin, just as in the Hunterian method. If we were to tie all the vessels below the sac, we should cut off the entire circulation, and we should be apt to have a soft, currant-jelly coagulum.

In enumerating the principal methods of ligation, I must not omit what is known as the "old operation," or the "operation of Antyllus," though it is really not the operation which Antyllus actually performed. His plan was to tie the artery both above and below the sac, and then cut the aneurism entirely away. As performed at present, the operation consists merely in laying open the sac, and applying ligatures above and below. This operation, which was successfully practised in a number of cases by the late Prof. Syme, is well adapted to cases of traumatic aneurism, but not to those of spontaneous origin. It has been practised on the subclavian, axillary, and gluteal arteries with good results. In one case of iliac aneurism, which was operated on in this way, where Mr. Syme thought he had tied the common iliac, post-mortem examination showed that only the external iliac had been tied. This method is not suited for cases of spontaneous aneurism, as there is apt in these to be disease of the artery in the vicinity of the sac. The circulation is controlled by digital compression, or a tourniquet above the aneurism, or, where this is not possible, as in cases of axillary aneurism, by Mr. Syme's plan of making an incision above the clavicle, and compressing the artery with the fingers over the first rib. In traumatic aneurism, the extent of impairment of the artery is limited, while in the spontaneous variety the extent to which the arterial walls are diseased is unknown, and may render the application of a ligature in this way impracticable. Thus, if we have a traumatic aneurism in the gluteal region, following a stab, we know that the lesion must be within reach, while in a case of spontaneous aneurism in the same situation, we cannot be certain but that the sac extends into the pelvis. If, in the latter case, we should cut into the aneurism, the patient would probably be destroyed by hemorrhage before the artery could be tied. In non-traumatic aneurism in this situation, therefore, it is better to tie the internal iliac than to resort to the old operation.

Another mode in which spontaneous cure is said to occur, is by suppuration of the sac. Sometimes this results from the irritation occasioned by the introduc-

tion of foreign bodies into the sac. The introduction of needles, wire, horsehair, etc., aims to produce coagulation, but may, instead, cause suppuration. The method of the introduction of foreign bodies is not to be advised when other methods are applicable; nor, in my judgment, is the treatment by galvano-puncture to be recommended if there is a possibility of effecting a cure by other measures. The galvano-puncture treatment may have its appropriate place in affording temporary relief in some cases, but it seldom, if ever, ends in permanent recovery; and it is, in itself, not unattended with risk.

In the present case we have, as I have already mentioned, given digital compression a fair trial, but it has failed; and to-day I shall ligate the superficial femoral artery by the Hunterian method at the apex of Scarpa's triangle. The ligation was originally performed by Hunter at a lower point, in what is called the Hunterian canal; but the operation in this situation is more difficult, and possesses no advantage except in special cases. When suppuration of the sac occurs, and it is necessary to ligate the artery for secondary hemorrhage, then we tie it in Hunter's canal; but, when ligation is adopted primarily for popliteal aneurism, we tie the vessel in Scarpa's space. We begin the incision in the upper part of the triangle, carrying it downward for from two to two and a half inches parallel to the sartorius muscle. In tying the artery, the safest rule to follow is to feel for the line of pulsation, which, when it can be recognized, is what surgeons practically rely upon. When the pulsation of the artery cannot be felt, then we must follow certain definite, fixed lines; those given by Mr. Barwell being among the most satisfactory. Having turned the limb outward, one line is taken from the middle of the abdomino-femoral fold to the inmost point of the inner condyle of the femur, and then another line is drawn from the anterior superior spine of the ilium, to the junction of the middle and lower thirds of the thigh. Where these lines meet, the sartorius covers the femoral artery, and the incision is made along the inner border of the muscle, so that this point shall be at the middle of the wound. Dividing the skin and superficial fascia, we can recognize the inner edge of the sartorius through the deep fascia, which is then divided along the border of the muscle; drawing this a little outwards, we must avoid a small vein which is often found in front of the sheath, and then remembering that the artery lies to the outer side and the vein to the inner side, we make a small opening in the sheath and pass the aneurismal needle from within outward. Sometimes when the sheath is opened, there is a tolerably free flow of blood, which may lead the surgeon to fear that the vein has been injured; usually this is not the case, the blood coming from the nutrient vessels of the sheath and stopping when the ligature is tightened. If, however, the flow of blood does not stop, the surgeon should separate the vessel half an inch higher up and apply the ligature at that point.

I am sorry to see this muscular tremor in our patient [when he was brought into the amphitheatre after having been etherized]. I have had experience in these cases, and know that this tremor is a very troublesome complication. Muscular tremor is not a complication of much consequence in amputations, where your incisions are bold, but it is very troublesome, and may even be dangerous in an operation of such delicacy as the ligation of a large artery.

In most cases of arterial ligation the ordinary aneurismal needle, with a single curve, is safer and more satisfactory than any other. I have here an ingenious needle with an eye through the posterior as well as the anterior part of its curve. The posterior eye being threaded, when the point of the needle is passed under the artery, it is caught by another instrument which goes into the anterior eye, and which draws the curve of the needle and the ligature through, after the handle has been unscrewed. Sometimes in using the ordinary needle it is better to pass the needle unarmed, and then have an assistant to thread it afterwards.

While the needle lies below the artery, pressure above arrests the pulsation in the tumor, showing that the artery is in the grasp of the instrument; then having passed the ligature around the artery, we must make sure that we have not anything beside the artery included. Formerly, it was the custom to tie the artery and vein together, but now the artery is tied by itself. I secure the ligature with three knots, then fasten the two ends of the ligature together, and allow them to hang out of the wound.

The pulsation now is arrested, and the tumor is much less tense than it was. The wound is closed with sutures, like any other incised wound, after which the limb is carefully wrapped in cotton, so as to protect it from injury, and to keep it warm. There is slight pulsation in the posterior tibial artery. This is by no means unfavorable. I hope that there is enough collateral circulation already established to prevent gangrene.

[The patient did well after the operation, the ligature coming away at the end of two weeks, and the wound slowly healing. When the patient left the hospital, however, the tumor was still somewhat soft, showing that the contained coagulum was not all as firm as would have been desirable, and that the risk of suppuration of the sac had not, therefore, entirely passed away.]

ORIGINAL ARTICLES.

TRACHEOTOMY IN DIPHTHERITIC AND MEMBRANOUS CROUP.

BY FRANK C. WILSON, M.D.,
OF LOUISVILLE, KY.

(*Read before the Kentucky State Medical Society April 5, 1883.*)

IT IS not my design to review the literature of this subject, but simply to relate two of the cases in which I have performed tracheotomy, together with some observations as to the best methods of conducting the after-treatment in such cases.

The operation is simple enough, and, if performed with ordinary care, not dangerous.

CASE I.—In November, 1881, I was aroused at night to see a little boy, H. M., aged 6 years, who a few days previously had been taken sick with diphtheria involving the nasal passages. A few weeks previously, his little brother had been attended for the same complaint by Dr. Senteny, the family physician, and had so far recovered that it was not thought necessary to visit him.

The parents, recognizing the similarity of the cases, used the same remedies, not deeming it needful to call in the physician until they became alarmed at the development of croupy symptoms. Being in the immediate neighborhood I was hastily called, and at once recognizing the gravity of the case I explained its nature to the anxious parents. I insisted upon having Dr. Senteny sent for at once, and we saw the child several times during the day, one or the other of us remaining with it most of the time. It continued to grow worse in spite of the treatment pursued, which consisted of insufflation of powdered sulphur, and of pepsin, together with

the internal administration of quinine, chlorate of potash, tincture of iron, etc.

The obstruction at last became so great that cyanosis supervened and death seemed imminent. I had previously made all necessary preparations for tracheotomy, and having gained the free consent of the parents, proceeded to perform it about one o'clock on the second night. The hemorrhage from the greatly congested vessels of the neck was alarming, and much valuable time was lost in efforts to staunch the flow of blood, before making the incision into the trachea. This was at last accomplished, and the incision into the trachea made, but the coughing and struggling, which the first entrance of air always induces, started with increased violence, the alarming hemorrhage. However, turning the child on one side, no inconvenience was occasioned by the hemorrhage, and the tube being soon introduced, it was easily controlled. The breathing became at once natural and easy, and the cyanosis, before so marked, rapidly disappeared. A large sponge was placed in front of the neck over the tube and kept constantly moist, so as to filter the air and at the same time moisten it. The inner tube required cleansing every four or five hours, and a supply of oxygen was kept constantly on hand, to be used should cyanosis supervene at any time. He was faithfully nursed by his father, and to his watchful care during the after-treatment, no doubt, is greatly due the successful issue of the case. The tube was removed at the end of one week, the opening closed in about twelve or fourteen days, and recovery was complete.

CASE II. *Membranous Croup. Tracheotomy on the third day, death on the sixth day.*—F. M., aged 4 years, was out riding, insufficiently clad, and upon reaching home complained of being cold. During the night became hoarse and croupy. I was called the next morning and found considerable obstruction, both in expiration and inspiration, with a clear, ringing, croupy cough. I prescribed turpeth mineral to be used in three-grain doses to produce emesis, whenever necessitated by increasing obstruction; otherwise, in one-half grain doses at intervals of six hours with chlorate of potash in solution at short intervals. The second night he rested a little more comfortably, but there was never entire relief from the croupy cough, and the next night the obstruction became so great as to be alarming. Early in the morning, Thursday, the cyanosis became so marked that I proposed tracheotomy, and having asked for a consultation, Dr. Hewitt was called. Having in the mean time made all preparations, death seeming imminent, I inserted the tube about 9 A. M., there being very little hemorrhage and the membrane not extending below the opening. The breathing immediately became easy and full, and the cyanosis quickly disappeared. The sponge was placed over the tube and the air of the room kept moistened by steam. The case progressed favorably until Friday; about midnight, I noticed that the tube filled with inspissated mucus at short intervals, requiring to be frequently cleansed. After a while even cleansing the inner tube failed to relieve the obstructed breathing, the obstruction being evidently lower down in the trachea and bronchial tubes. Thinking that possibly the dried mucus might have accumulated upon the lower end of the outer tube, that too was removed and cleansed. but still the obstruction remained. A spray of bromide of potash solution was then used with a view of dissolving the mucus. This afforded some, but only temporary, relief. Oxygen was also resorted to with the hope of prolonging life until the membrane in the larynx might separate and be expectorated. I even endeavored to hasten this by passing a sponge probang saturated with a solution of bromide of potash into the larynx, but failed to dislodge the membrane. The tracheal and bronchial obstruction gradually increased until death supervened, just three days after the operation. I remained with this case almost continuously day and night, from the time of the operation until death. Watching it thus closely caused me to realize, as I had never done in my previous cases, the danger of breathing cold, dry, and dusty air directly through the tube into the lungs, and the necessity of imitating as closely as possible the natural air-passages, which filter, warm, and moisten the air before it reaches the lungs. I believe in this case death was due solely to the inspissated mucus accumulating in the trachea and bronchial tubes. To obviate this, and at the same time imitate as nearly as I could the natural passages, I have arranged a respiratory apparatus shown in the figure. It consists, first, of a silver canula provided with two branches, in one of which a valve opens outwards,

A, and in the other a valve opens inwards, B. A rubber tube, C, leads from the canula whose valve opens inwards to a jar, D, filled with fine sponge, so arranged that the air has to pass through the sponge which can be kept moist and warm by placing the jar in a vessel of water heated by a lamp. Thus the air breathed will be warm, moist, and free from dust, and can, if desired, be medicated at the

same time. The expired air and the secretions, coughed out through the tube, find exit through the canula whose valve opens outwards. I am firmly convinced that the use of some such arrangement will obviate or greatly lessen the chief danger to which such cases are liable after tracheotomy, and to which is due the great mortality attending the operation. Were the operation rendered thus more successful; we would see fewer cases consigned to their inevitable doom, by the opposition of parents and friends.

LOUISVILLE, KY., April, 1883.

FOUR CASES OF PORRO-CÆSAREAN SECTION

AT THE ALLGEMEINE KRANKENHAUS, OBSTETRICAL DEPARTMENT, VIENNA.

BY X. O. WERDER, M.D.,
OF PITTSBURG, PA.

As I had the very rare opportunity to see four cases of Cæsarean section performed within two weeks, one in Prof. Gustav Braun's division, and the others in Prof. Carl Braun's clinic, I think it of sufficient interest to give the readers of THE MEDICAL NEWS a brief history of the cases and a short description of the operations.

CASE I.—April 19th. This woman was about thirty-five years of age, very anæmic, badly nourished, and of a phthisical diathesis. She was delivered of her first child about two years ago, her labor being then very difficult, but normal. During the last one and one-half years she has been suffering with osteomalacia in a very high degree. Labor set in a little prematurely, as she had only passed her eighth lunar month; pains commenced during the night from the 18th to the 19th of April, but she was not admitted to Prof. Gustav Braun's division until about one hour and a half before the operation was commenced. On examination her pelvis was found to be very much contracted, both in the antero-posterior and in the transverse diameters, but especially in the latter, as is usual in such cases, it being caused by the lateral pressure of both lower extremities against the acetabulum in walking. The conjugate diameter measured only four centimetres, instead of thirteen, in a normal pelvis, and the circumference of the pelvis seventy-six centimetres, instead of ninety. The pelvic outlet was extremely small; it was very difficult to introduce two fingers through it. The pubic arch projected like an angle. It is very evident that in such a case there is not only not the slightest chance for a normal delivery, but even a craniotomy cannot be thought of; nothing short of a Cæsarean section can here be considered.

Preparatory to the operation her abdomen was washed and brushed with soap and water and then rubbed off with a five per cent. solution of carbolic acid, and the hair of the pubes shaved off while she was being placed under the influence of an anæsthetic, the usual one in Vienna being a mixture of ether, chloroform, and alcohol. A well-disinfected oilcloth having in its centre an oval opening large enough not to interfere with the operation, was then placed over her abdomen, and through this open space the incision in the linea alba extending from the symphysis pubis to the umbilicus was made, and layer after layer carefully divided until the peritoneum was exposed, which was then opened upon the director. The uterus now filled up the whole incision, the latter was found a little too small, however, for extracting the child; it was, therefore, extended about two inches above the umbilicus. As soon as every bleeding vessel was secured by an artery forceps, the uterus itself was opened with a few bold cuts with the knife, and without regard to the very profuse hemorrhage, the operator thrust his hand into the cavity of the uterus and extracted the child, giving it in charge of an attendant, while the assistants with their hands compressed the edges of the uterine wound, in order to stop the excessive hemorrhage. The uterus was then pulled out of the abdominal wound, an écraseur was passed around it closely to the edge of the incision and this was tightened to its full extent, thus controlling the alarming hemorrhage; about one inch and one-half above the chain of the écraseur the whole uterus was amputated with the knife. In spite of such decided pressure around the stump of the uterus, there was still some blood oozing out; this was stopped by compressing each bleeding point by a Bozeman forceps. The abdominal cavity was now sponged and cleaned out; very little blood had entered it, however, as the abdominal wound had been drawn closely to the sides of the uterus, thus protecting the peritoneum as much as possible. The deep peritoneal sutures were now applied, for which purpose silver wire was used, which was tightened by a small lead-plate and shots, the so-called button suture, over this the superficial suture with simple carbolized silk was made uniting the upper part of the uterine stump to the wound, after it was pressed against the symphysis pubis as much as possible. After the abdominal wound was closed, the pedicle was thoroughly cauterized with the thermo-cautére and then dusted over with iodoform. Iodoform gauze was then tightly packed around the stump still included in the chain of the écraseur, which is to be kept on until the pedicle sloughs off, which generally takes place about the tenth or twelfth day; the rest of the wound was covered very lightly with the same material. Over this a piece of silk was placed, on top of this antiseptic cotton and a mackintosh, a large linen bandage reaching all around the body finished the dressing.

The child cried immediately after the extraction, and though not of full term, is thriving pretty well. The mother succumbed to the operation on the end of the third day; the exact cause of death I could not ascertain.

CASE II.—April 25th. Prof. Carl Braun's clinic. This woman was a strong, vigorous primipara, twenty-three years of age; at the end of the tenth lunar month of pregnancy. She has been subject to rachitis in her early childhood, and as a consequence of which she has now a pelvis contracted in all its diameters. The conjugate diameter is only 6 cm., instead of 11 in a normal pelvis; the right oblique diameter 5 cm., instead of 11¾, and the

left 4 cm. The circumference of the pelvis measures 78 cm., instead of 90; the distance between both anterior superior spinous processes of the ilium 20, instead of 25 cm.; distance between the highest points of both crests of the ilium 23 cm., instead of 28; distance between the trochanters of the femur 28 cm., instead of 32. The fœtus was very well developed and estimated to weigh about 3500 grammes (it actually weighed 3350 grammes). An ordinary fœtus could never be born through such a small pelvis, even after craniotomy, which would even be too small for a fœtus of only 1500 grammes; there was, therefore, no alternative in this case but to perform Cæsarean section. The patient having been under observation for about two weeks, it was preferred to do this a few days before labor was expected, because the pains would not only be a very undesirable complication to the operation, but the damage very likely to be done by them to the cervix by bruising and tearing it, should be avoided if possible.

The operation as performed by Prof. Carl Braun, was very similar to that of Prof. Gustav Braun. The preparatory proceedings in regard to washing and sponging of the abdomen, catheterizing the bladder, etc., were exactly the same, but the incision in the linea alba was made a little higher up in this operation. For, while in Case I., the incision extended down to the symphysis pubis, and only about one and one-half to two inches above the umbilicus, Prof. Carl Braun commenced it about one to two inches above the symphysis and carried it up higher above the umbilicus, so that about two-thirds of the incision were below and one-third above the umbilicus, the reason of this being to prevent any injury being done to the bladder. After the peritoneum was opened and the bleeding vessels controlled, he did not cut into the uterus immediately, but pulled the entire uterine tumor out from the abdominal cavity, protected the intestines with large abdominal sponges, and had the edges of the wound drawn together by an assistant. A long elastic tube was now applied very tightly around the neck of the uterus for the purpose of controlling the enormous bleeding, by which the incisions into the pregnant uterus are followed, the écraseur was also passed around it, but not tightened. These preparations completed, the entire uterus was opened by a few quick incisions, and the living child extracted, while an assistant closed the écraseur tightly around the womb. The amputation of the uterus, the closing and dressing of the wound, and the extra-peritoneal treatment of the pedicle were exactly the same as in the first operation, only with this difference, that the whole stump was united to the abdominal wound, all around it, by a number of sutures, not the upper part of it only, as done by Prof. Gustav Braun.

CASE III.—April 26th. Prof. Carl Braun's clinic. This patient, an idiot, was also a primipara, thirty-two years of age, well nourished, and at the end of the tenth lunar month of pregnancy; she had a rachitic pelvis, deformed and contracted in all its diameters, similar to the previous case, nearly all the measures and diameters being of about the same length.

Conjugate diameter (vera) 6 cm., instead of 11.

Conjugate diameter (diagonalis) 8 cm., instead of 13.

External conjugate 17 cm., instead of 20 cm.

Distance between ant. sup. spinous process of ilium 21 cm.

Distance between highest points of both crests of ilium 25 cm.

Distance between both trochanters of the femur 28 cm.

Circumference of pelvis 80 cm.

The whole pelvis had a kidney-shaped form, it being contracted in the highest degree in its antero-posterior diameter. The child was not as well developed in this case as in the previous one, its weight being estimated to be from 2500 to 2800 grammes. The indications for the Cæsarean section were, of course, just as decided as in Case II. The operation did not differ from the last one, but after cutting off the uterine circulation by an elastic tube drawn tightly around the lower part of the uterus, as was also done in the foregoing case, there was some little delay before the child could be extracted, as a consequence of which the child in utero, being without the mother's nourishing fluid, was forced to respire, and, in so doing, aspirated some of the amniotic fluid. It was, therefore, asphyxiated when it was born, though it made several efforts to breathe and cry, which only served, however, to drive this aspirated fluid still further down into the bronchial tubes, filling them up, and mechanically preventing the air from entering them. In spite of all the care and attention paid to it, it died a few minutes after its birth.

CASE IV.—May 1. Prof. Carl Braun's clinic. This case was very similar to the first one. The woman is forty years of age, suffering with osteomalacia in such a degree that she has not been able to walk for a long time. She generally lies in a horizontal position, with her thighs flexed upon the abdomen. When she entered the obstetrical wards about six weeks ago, she was very badly nourished, and in a very weak condition, but, since then, she has improved very much, because, preparing her for this operation, everything has been done to raise her nutrition, and to bring her system into such a condition as to be able to withstand such a serious operative procedure. She was delivered of a child, with the forceps, about ten years ago, and since then she has had an abortion. This pelvis is contracted most intensely in its transverse or oblique diameters, as in the first case, and the symphysis pubis is again very much elongated and projecting. The oblique diameters, both right and left, are only four cm. instead of eleven and three-fourths; the pelvic inlet is also of the same size. In such cases, of which Prof. Carl Braun has not seen more than about ten in his thirty years' experience, at least where the deformity of the pelvis was so pronounced, he has always performed Cæsarean section, though it has been suggested by some authors that, the bones being so soft, porous,

and yielding, an extraction of the fœtus through the pelvic outlet could be made without injury to the mother. This, however, he regards as more than doubtful, and thinks it safer to deliver the child by laparotomy, especially as this operation has lately given such good results.

The operation was performed in the same way as before, but learning from the experience in the last case, the elastic tube was not drawn tightly around the cervix until the operator was ready to make the incision into the uterus, as a consequence of which he extracted a living, crying child. The placenta was inserted just in the line of incision, so that it had to be cut through before the cavity of the uterus was reached; this caused a little more hemorrhage than usual.

Remarks.—It is proper to mention here that all the four operations were performed strictly antiseptically in every respect, though not all of the minutiæ of Lister's dressing were observed. The spray was used in the operating-room before, but not during the operation.

The result of the first operation has been stated above: death ensued on the third day; whether due to the operation, or to her weakened condition and tuberculous diathesis, or both, I could not ascertain. More fortunate was Prof. Carl Braun with his three cases: they are all on the road to recovery. The first case did not have the slightest rise of temperature, and was feeling remarkably well, until the end of the third week, when apparently without the least cause, she was suddenly attacked with phlegmasia alba dolens. The affection is, however, getting better rapidly, and she will, in all probability, be soon restored to health.

The third case, an idiotic girl, as has already been stated, was getting along equally well in every respect, but her suture having been removed on the eighth day, she succeeded, in one of her wild hallucinations, in tearing apart the slightly adherent surfaces of the abdominal wound, so that the whole larger omentum was hanging out of the wound. Prof. Carl Braun returned this into the abdominal cavity, but did not find it advisable to pare the edges of the incision, and to reunite it; he simply drew them together by strips of adhesive plaster, after having it thoroughly disinfected with iodoform. In spite of this very unfortunate accident, Prof. Braun regards her prognosis as a very favorable one, and is of the opinion that the wound will close and heal perfectly by granulation, though it will probably require several months to do so, instead of a few weeks.

The second patient with osteomalacia, the most unpromising case of the four, was the most fortunate after the operation. Her convalescence has not been interrupted at any time by any unfavorable symptom, so that she will soon be able to leave the hospital. The original disease—osteomalacia—does not seem to trouble her very much at present; she can move her lower extremities now with perfect freedom, and does not suffer any pains. She is very happy and satisfied with her condition, and states that she has not felt as well as now since the beginning of pregnancy.

The children are all living and well, except the one mentioned who died immediately after birth.

The operation itself is that recommended by Porro, and known under the name of Porro's operation, who was followed in all these four cases in every particular, if I be not mistaken. The results of Cæsarean section since the introduction of this method here in Vienna have been very good; not more than about thirty per cent., perhaps less, of those who have been operated upon here since have died. A modification of Porro's operation, as suggested by Schroeder and others, was tried in two cases by Prof. Gustav Braun. Instead of cauterizing the stump of the uterus with the Paquelin cautery, and treating it extra-peritoneally, he united the mucous membrane of the pedicle by sutures, so that the wound was entirely closed, and returned it into the abdominal cavity—in other words, he treated it in the same way as is generally done after ovariotomy. The results, however, were disastrous, for both patients died a short time after the operation, and, on the autopsy, the whole abdomen was found full of blood, though the wound of the stump in the last case had been united by over thirty sutures.

These hemorrhages are not hard to explain, if it is considered that the tissues included in these sutures are muscular and contractile, very unlike to the pedicle of ovariotomy, and that, in shrinking, the sutures become loose.

The successful results with which Porro's operation has been accompanied are, in my opinion, very encouraging, and, if not everything deceives me, it will have a brilliant future. I hope that the time is not very far off when it will supersede a very unscientific, unsurgical, and detestable obstetrical operation—craniotomy—at least in all those cases in which a living child is at stake.

VIENNA, May 25, 1883.

MEDICAL PROGRESS.

THE FUNCTIONS OF THE SPLEEN.—There can be no doubt in the value of the spleen in the process of the formation of blood, but it would be difficult indeed to add anything very novel to what has already been conjectured in this matter. It has long been decided that the spleen is not an organ absolutely essential to life. Some fresh experiments bearing on the subject of the functions of the spleen have been instituted by PROF. ZESAS. The spleen was removed from many rabbits, and the animals were afterwards killed at intervals varying from one to seventeen weeks. The healthy formation of blood is known to be disturbed for a time after the extirpation of the organ in question; the white corpuscles are increased in number, while the red disks are diminished. Zesas found that the lymphatic and thyroid glands, with, perhaps, the liver, take on the functions of the spleen. He also came to the conclusion that the removal of the thyroid gland, as well as the spleen, prevented the proper re-establishment of normal hæmopoiesis. The spleen is therefore believed by Zesas to be concerned in the conversion of the white blood-corpuscles into red ones.—*Lancet*, June 23, 1883.

THE PARASITES OF MARSH FEVERS.—DR. LAVERAN, of the Val-de-Grâce, in a communication to the Paris Hospital Society (*Union Méd.*, June 12 and 14), states

that the observations which he formerly made in Algeria as to the presence of well-defined parasitic organisms (which he describes at length) in the blood in marsh fevers have been fully confirmed by subsequent researches. Their pathogenetic character has been proved by a large number of facts which enable him to come to these conclusions: 1. These parasitic elements exist always in the blood in cases of impaludism; and even when the examination of the blood of the living does not always exhibit them, they are still always to be found at least after death in the capillaries of the spleen. 2. They are always found in direct ratio with the severity of the case. In individuals who succumb through some complication in simple intermittent they are found only in small numbers in the liver and spleen; but in those who die from pernicious fever they exist in large numbers in all the organs and vascular tissues. 3. They precede a paroxysm of the disease, and when they are found in the blood we may almost certainly predict that a paroxysm is about to occur, although no elevation of temperature or other morbid sign exists. 4. These elements are never found in diseases unconnected with impaludism. 5. These elements disappear rapidly under treatment by quinine.—*Med. Times and Gazette*, June 23, 1883.

CONGENITAL DIVERTICULUM OF THE LEFT VENTRICLE.—A rare and curious example of cardiac abnormality has been recorded by Dr. Gibert, of Havre (*Progrès Méd.*, June 9th), as occurring in an infant who lived to the age of ten months. The child was born with a ventral hernia, the abdominal wall being defective in the middle line from the umbilicus upwards. A large pulsating vessel was noticed to be present together with the hernia, and as time went on, this vessel increased in size, till, at the time of death, it was as large as the finger. On examination, it was found that the diaphragm was also defective, so that the pericardium opened into the peritoneal cavity, and projecting into the abdomen was a pouch-like diverticulum, connected with the apex of the left ventricle, with muscular walls, and internally marked by fleshy columns like the ventricular cavity itself. This diverticulum was thirty-eight millimetres in length, and shaped like the finger of a glove. Dr. Gibert suggested that the non-closure of the ventral wall was probably due to the presence of this cardiac deformity; but the converse hypothesis, that the pouching of the ventricle depended on the defect of the diaphragm and abdominal wall, seems to be held by Dr. R. Blanchard, who made a further dissection of the specimen, for he speaks of it as being the congenital formation of a kind of true infundibular form of aneurism of the apex of the left ventricle—"a fact the more curious, because at that period of life the left ventricle only plays a very subordinate part, and this protrusion of a portion of its wall cannot, therefore, be attributed to an excess of internal pressure." However, we are not aware that in any recorded case of pericardial deficiency a similar ventricular aneurism has been observed. Dr. Peacock, who refers to several cases of defect of the pericardium, including the classical one referred to by Baillie, makes no mention of such an abnormality in his work on *Malformations of the Heart*. In cases of ectopia cordis, the organ is generally misplaced in whole or in part; one case mentioned by Dr. Peacock as having been published by Dr. O'Bryan most resembles Dr. Gibert's, for in it a portion of the left ventricle protruded through a triangular aperture at the anterior and upper part of the abdomen, produced by the absence of the xiphoid cartilage, and the fibres of the diaphragm inserted into it.—*Lancet*, June 23, 1883.

THE INFLUENCE OF THE ELECTRIC LIGHT ON THE HUMAN EYE.—In discussing the value of any particular source of artificial light, says PROF. MAUTHNER (*Wien. Allgem. Med. Zeit.*, No. 10, 1883), three qualities must be especially regarded: 1. The steadiness of the light; 2, the strength of the light; 3, its composition. From its complete failure in point of steadiness, the arc-light must be at once rejected from the category of lights suitable for the human eye. The incandescent light, on the other hand, deserves a prominent—if not a leading—position. As regards its strength or intensity, also, it fulfils all requirements, since it can be modified or intensified at will. The composition of the lights habitually used hitherto has shown a preponderance of yellow rays. In the electric light, however, the short-wave rays predominate—*i. e.*, the violet rays. To the human retina, blue or violet tints are more agreeable than yellow, and hence from its composition, as well as from its steadiness and adaptability, the light of the incandescent lamp is especially adapted for the use of the human eye. Distinctness of vision and the perception of color are both increased under the electric light—facts which might be theoretically held to involve an overstrained retina. Such a theory is not, however, borne out by practical experience; it is only where the light employed is unsteady that any ill-effects have been observed. It may be considered as an established axiom that the brilliancy and composition of any light are as nothing in respect of its value as an illuminating medium for ordinary uses, compared with its constancy and steadiness. In the incandescent lamp, no combustion takes place, and hence no consumption or vitiation of atmospheric air is induced. From a theoretic point of view, therefore, no objection can be raised against the use of the incandescent electric lamp: its full value as an illuminator is probably not yet ascertained.—*London Med. Record*, June 15, 1883.

WOUNDS OF THE VAGUS NERVE. — The following case is of interest in relation to the question of the possible effects which may follow division of the par vagum on one side of the neck. The patient was a man aged forty-nine years, the subject of a tumor in the neck of long duration, which, in the course of eight weeks, rapidly increased in size, induced much pain, and was associated with marked emaciation (*Berliner klin. Wochen.*, No. 21). The tumor occupied the left side of the neck, displacing the larynx to the right; it was of the size of two fists, but little movable, and was crossed by large veins. No signs of pressure on the vessels or nerves were detected. The lungs yielded no physical signs of disease. Notwithstanding the connections of the tumor, its removal was decided upon. Much difficulty was encountered in the course of the operation. The internal jugular, being adherent to the tumor, was ligatured and divided. The vagus nerve was apparently much displaced, for it was divided under the notion that it was the descendens noni. Later on in the operation the vagus was again cut through, so that a portion of it, about six inches long, was removed. After the operation, the pulse was 120. Some râles could be heard in the left lung, and the left vocal cord was paralyzed. Six hours later the pulse was 90; the respirations were 30. After this the patient did fairly well till the tenth day, when fever set in; and on the twelfth a rigor occurred, which was repeated the next day. The patient died on the fourteenth day, only a little purulent sputa having been coughed up. At the autopsy, some broken-down blood-clot was found at the site of each ligature on the internal jugular vein, but not an extensive thrombosis. The muscles of the left vocal cord were already in a state of fatty degeneration. In the bronchial tubes of

the left lung only purulent matter was seen; the right lung was œdematous and congested, but there was no bronchitis. The brain and the heart showed no morbid signs. Dr. Riedel, who had performed the operation, regarded the unilateral bronchitis and disease of the left vocal cord as directly dependent on the removal of the large piece of the left vagus nerve in the neck. The pyrexia and the rigor which ushered in death were looked upon as probably of embolic origin, though there was no post-mortem evidence to substantiate this view—*Medical Times and Gazette*, June 23, 1883.

PREVENTION OF INFANTILE DIARRHŒA.—The *Bureau d'Hygiene* of the City of Rheims, France, in July of last year, made a slight change in the form of death-report required in cases of infantile diarrhœa, which has been productive of very instructive results. Children dying from this disease were divided into two classes—those nourished by mother's milk, and those brought up by hand. From July 1st to December 31st, thirty-one infants nourished at the breast and two hundred and seventy-two brought up *au biberon* died of infantile diarrhœa. "This teaches us nothing new," says M. Langlet, in his annual report; "but it is one of those truths which cannot be too often recalled."

To place the true value on M. Langlet's facts, we should know the relative proportions of the two classes of infants. However, it can hardly be supposed that the bottle-fed children are to the nurslings as nine to one.

ALUM IN THE TREATMENT OF PHTHISIS. — Many physicians, both on the Continent and in some of our colonies, as well as at home, accept the doctrines of Koch without question. One of the natural consequences of this acceptation is the search after some remedial agent which shall possess the capacity of checking the growth of the micro-parasite which is the reputed chief etiological factor of the disease. DR. JULIUS PICK has put on record the results of his experience in this matter with the preparations of alum (*Wiener med. Wochen.*, No. 19). The author seems to consider that he has proved that the benefits which accrued from the employment of these therapeutical agents were marked, and all that could be desired. The outlines of one case, which was diagnosed to be tuberculous infiltration of both lungs, chiefly at the apices, are faithfully recorded. At the beginning of January of this year the treatment was commenced, and consisted of an inunction with fat, performed twice daily over the whole body, of a diet composed of bread and milk, together with the internal administration of a pill three times a day two hours after food. This pill consisted of a quarter of a grain of metallic aluminium, a grain and a quarter of undried alum, with the same quantity of pure carbonate of lime. After eight days the diarrhœa ceased, the appetite improved, the fever abated, and the night-sweats became less. Notwithstanding this favorable progress, the composition of the pill was somewhat altered; instead of the undried alum, the same dose of an extract of the malate of iron was substituted, and some extract of taraxacum was used to make up the preparation. Two of these pills were prescribed in the morning, three at midday, and two at night. The inunction with fat was proceeded with. It need hardly be said (for the case would scarcely have been published else) that the physical signs and symptoms of the disease gradually diminished to a practical zero. The correctness of the original diagnosis is of course taken for granted. The above sketch is a fair representation of the illogical mode of thought current among not a few medical men.—*Med. Times and Gaz.*, June 23, 1883.

RESECTION OF THE PYLORUS.—DR. VAN KLEEF performed this operation, in January last, upon a woman who had stenosis, due to ulcer. The recovery took place without accident, and by the latter part of May the patient's weight had increased thirty pounds.—*Gaz. Degli Ospitali*, May 27, 1883.

PARALYSIS OF THE OCULO-MOTOR NERVE DURING MENSTRUATION.—At a meeting of the Society of German Physicians in Prague on March 2 (*Wiener Med. Blätter*, March 15), PROF. HASNER showed a case of periodical paralysis of the left oculo-motor nerve, occurring along with menstruation. The patient, a girl, aged 17, was perfectly well until the first beginning of menstruation, when paralysis of the left eyelid appeared on the first day, and lasted, gradually improving, until the third day, when it disappeared with the cessation of the menses. This recurred at every menstrual period. The case seems to be unique, and Prof. Hasner considers it to depend on hyperæmic pressure in the region of the root of the left oculo-motor nerve.—*London Med. Record*, June 15, 1883.

POST-HEMIPLEGIC DISORDERS OF MOVEMENT. — A valuable communication on the above subject by M. DEMANGE will be found in the May number of the *Revue de Médecine;* it is based on a study of eleven cases, of which nine proved fatal. In each of these an autopsy was made, and a drawing is given of the morbid appearances found in the brain. The cases are all very well reported except in one particular, and that is, that from first to last there is no mention of the ophthalmoscopic appearances in any of the patients. In this respect, however, M. Demange does not differ from his compatriots, for we may say, without fear of contradiction, that it is quite exceptional to find any note as to the state of the optic disk in the cases published in the various French journals. Notwithstanding this omission, however, the paper constitutes a distinct advance in our knowledge of the different varieties of post-hemiplegic movement. These movements, according to the author, may be divided into two groups—in one they supervene spontaneously, apart from voluntary movements (of this kind are hemi-chorea, hemi-athetosis, and hemi-paralysis agitans); in the other groups the movements are produced only during the performance of voluntary acts (of this kind are hemi-ataxy and hemi-tremor of the type of disseminated sclerosis). These movements may coincide in the same patient, or they may succeed one another. In all the patients, of course, there was hemiplegia, and in all there was hemi-anæsthesia. As regards the lesions found, in one it was almost confined to the posterior segment of the internal capsule (case of hemi-chorea); in six cases the lenticular nuclei were affected (in some of these the internal capsules were also involved, in others the optic thalami—one case of hemi-paralysis agitans, four cases of hemi-athetosis, and one of hemi-sclerosis disseminata); twice the lesion was cortical and subcortical, at the region of the motor convolutions, the central ganglia being quite normal (one case of hemi-athetosis and one of hemi-ataxia). No special seat, then, can be assigned to the lesion, judging from the form of the trembling. The anatomical condition which gives rise to the production of the trembling would appear to be the irritation of the motor fibres at any point of their course, whether in the internal capsule, the lenticular nucleus, optic thalamus, or motor convolutions, and the form of the trembling would, in the author's opinion, be dependent, not upon the seat of the cerebral lesion, but upon the state of the muscles of the paralyzed side—muscles whose tone and contractility vary according to the patient, the duration of the hemi-

plegia, and the state of descending degeneration of the pyramidal fibres. The author sums up the conditions necessary for the production of these movements as follows: 1. The hemiplegia must not be flaccid and complete. 2. The secondary contraction must not have given rise to an absolute rigidity. The paper concludes with some remarks on bilateral hemiplegia due to symmetrical cerebral lesions.—*Med. Times and Gaz.*, June 23, 1883.

JABORANDI IN HEART DISEASE.—PROF. RIENZI has used powdered jaborandi, grs. xlv–ʒiss during the day, in two cases of aortic insufficiency with endarteritis. serous expectoration, dyspnœa, painful palpitations, frequent and quick pulse, and murmurs at the base of the lung. After a few days' treatment, the sounds were lessened, the pulse was less frequent, and the painful palpitations had ceased. At the same time there was quite profuse sialorrhœa, and increased intestinal secretions. He believes that jaborandi has a double action, in regulating and sustaining the energy of the cardiac contractions, and in increasing the excretions from the economy. From this double action he deduces its utility in cases of failure of energy in the contractions, and in cases in which there are œdema and congestions. —*Cronica Medico-Chirurgica*, May, 1882.

TREATMENT OF PHTHISIS WITH IODOFORM.—Since Semmola's communication on the use of iodoform in phthisis to the International Medical Congress in Amsterdam, his experiments have been repeated, and with satisfactory result. Ciaramelli, De Renzi, Fasano, and other Italians have confirmed his statements (*Lo Spallanzani*, January and February, 1883). Iodoform acts in phthisis and chronic bronchial catarrh as an anæsthetic, antiseptic, and alterative. The best results are obtained in incipient phthisis, which is often cured. In advanced cases this remedy is very useful, lessening expectoration, moderating the accesses of cough and fever, and arresting the progress of caseation—in a word, prolonging the patient's life. Iodoform has been used by inhalation, either by rubbing the patient's chest with an iodoform ointment, or by making him inhale essence of turpentine containing iodoform in solution. This method, though most rational, is so largely objected to by patients and their friends because of the disagreeable smell of the iodoform, that it cannot be extensively used. Or it may be given in a pill with extract of gentian or other extract, beginning with one grain a day, increasing the dose as toleration is acquired to six or eight grains a day.—*London Med. Record*, June 15, 1883.

ICHTHYOL.—UNNA (*Deutsche med. Zeitung*, Nov. 17, 1883, and *Monatsschr. für Prakt. Dermat.*, Nos. 11 and 12, 1882) has used with great success a new bituminous substance containing a large amount of sulphur, and to which the name of ichthyol is given. It is partially soluble in alcohol and ether, and perfectly soluble in these combined. He recommends its use (10 per cent. with vaseline) to paint on the joints in acute rheumatism, which should then be wrapped in wadding; he says it gives immediate relief from pain. He uses stronger ointments (20 to 30 per cent. in vaseline) in chronic rheumatism, lumbago, and neuralgia. He recommends it to be inhaled with steam, a tablespoonful to one or two litres of water; or to be sprayed on the throat, 5 per cent. dissolved in equal parts of ether and alcohol. He uses 1 per cent. watery emulsion in the early stages of gonorrhœa as an urethral injection, and he thinks very highly of it in eczema in 50 per cent. ointment with vaseline for adults, and 20 per cent. for children. In nascent eczema he begins with 20 per cent., and later on uses 10 per cent. He has found great advantage in obstinate eczema from an ointment made by boiling 10 parts of litharge with 30 parts of vinegar until 20 parts remain, and then adding 10 parts each of olive-oil, lard, and ichthyol.—*London Medical Record*, June 15, 1883.

EPIDEMIC PNEUMONIA.—An interesting epidemic of croupous pneumonia, which seems to point to its infectious character, is the subject of a paper by DR. HEINRICH SCHMIDT, of Königsbrunn, in the *Berliner klin. Wochenschrift*, No. 23. The outbreak occurred at Zang, a village of 549 inhabitants, situated on the Aalbuch, and surrounded by woods. The inhabitants are hard-working, and their food is coarse and frequently scanty. The water-supply is bad. Typhoid fever occurs only sporadically, and ague is unknown. An epidemic of measles occurred amongst the children in the month of March, 1882. Ordinary croupous pneumonia occurs pretty frequently. A case of pneumonia occurred on April 5, which, however, does not belong to the epidemic under notice. The first case of the epidemic occurred on May 11, and between that date and June 18 seventeen cases occurred. On July 10, a case of pneumonia also occurred, but this was not part of the epidemic. Two of the cases ended fatally, and four ran an abortive course. The cases all occurred in neighboring houses. Six cases occurred in a very poor family, whose hygienic surroundings were very bad. The period of incubation seems to have been in most cases about five to eight days. The weather in May was cold, but warm in June. Most of the epidemics of pneumonia have been described as occurring in closed places, usually institutions or prisons. Kerchensteiner observed an outbreak of pneumonia which spread like an epidemic, and was of a typhoidal character. The overcrowding of the sleeping apartments he considered as a most favoring circumstance. Inoculation of animals with the blood of these pneumonic patients gave no result. Penkert, in the *Berliner Wochenschrift*, Nos. 40 and 41, 1881, described an epidemic occurring in a small place of about 700 inhabitants. He considered that the infectious material had been carried from a neighboring churchyard by the wind to a school where the first twelve cases occurred, and that the disease afterwards spread from person to person. The epidemic was of a mild character, differing from most epidemics described. The *Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege*, 1882, Bd. ii., pages 366 and 367, mentions an epidemic comprising seven cases occurring in Uster, three of which ended fatally. The cases were described as typhoidal pneumonia. In Börner's *Jahrbuch der practische Medicin*, 1882, p. 239, an epidemic is mentioned by Schwede and Münnick. It comprised fifteen children out of fifty, and occurred within thirteen days in a small village, whilst in the neighborhood no case occurred. Epidemics of pneumonia have been noticed in garrisons—in the First Army Corps, at Königsberg, Dantzic, and Grandenz, commencing in January, 1875, and ending in July, 1875. Another epidemic occurred in the Fourth Army Corps in the winter of 1875 and 1876. The symptoms in both epidemics were almost the same—prodromata, with various general symptoms, high fever, and at the commencement no distinct local signs in the lungs; next, severe head-symptoms, and profound prostration of strength; then local mischief in the lungs, and with it increased rise of temperature; no true crisis, or only after the seventh day, then diarrhœa. Very frequently there was considerable swelling of the spleen and liver, with slight jaundice, marked and rapidly occurring heart-failure.—*Medical Times and Gazette*, June 23, 1883.

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SATURDAY, JULY 14, 1883.

THE GRIEVANCES OF THE PLUMBER.

THE master-plumbers of the United States have held a National Convention in New York, in which they have duly considered their troubles, and the causes and remedies for the same.

Their grievances, as set forth in the address of Mr. Remick, of Philadelphia, which seems to have been accepted as an exposition of the views of the convention, are as follows: "It is a general feeling among plumbers all over the country that the tone of our trade is lowered; we are made the butts of the penny-a-liners of the press, which, naturally, has an effect on the minds of the public; our legitimate trade is filched away from us by unscrupulous dealers; we are held up to the public gaze as ignorant and reckless individuals who tamper with the lives and the health of our customers. A newly-invented profession is sprung upon the world, called sanitary engineering, which proposes to its confiding patrons to guard and protect them against their insidious enemy, the plumber. Boards of health, too, lend their aid to these magniloquent braggarts by publicly setting the seal of their disapproval on practical skill and experience, and their unqualified indorsement of book-taught experts and newspaper scientists. It is a fact to-day that the men whose lives are spent in the solution of, and whose pursuits lie close to, the sanitary problems of the day more than any other, are ostentatiously ignored, and the claims of raw graduates from medical or other schools are as brazenly thrust in the face of the public."

The remedy proposed for these evils appears to be to get all the plumbers in the country to join an association, formed on the strictest trade-union principles, the members of which are not to purchase materials from any dealer who sells to any other parties than plumbers, and who, probably, are to refuse to work in accordance with plans made by any sanitary engineer or with suggestions of any one who is not a master-plumber.

The absurdity of the complaint is only equalled by the folly of the remedy proposed.

What are the facts in the case? A very large proportion of the men who advertise themselves as plumbers are incompetent mechanics who have never served any sufficient apprenticeship, and are unfit to be trusted with anything but the simplest kind of work. A very considerable number of the plumbers who are good mechanics have forfeited the confidence of the public, because they have taken contracts at prices for which good work and materials could not be furnished, and have furnished poor materials and done bad work in order to make it pay, thus playing into the hands of the so-called "Jerry builders."

That the tone of the plumbing trade has been lowered there is no doubt, but the plumbers themselves are responsible for it. The remedy is not a trade-union, in which the skilled and honest workman is to stand on the same level as the incompetent and ignorant man who knows little more than how to wipe a joint. The true remedy is a system of registration of competent plumbers, the competency to be determined by adequate tests, and it is to secure this that association on the part of the really skilled men can produce the most valuable results.

As to the claim that plumbers alone shall furnish materials, and that every one is to accept the plumber's dictum as to what fixtures shall be used, and how the pipes shall be arranged, it is so absurd that the mere statement is a sufficient refutation. Equally absurd is the hostility evinced towards sanitary engineers and health boards and officials. These are in fact the best friends and most powerful auxiliaries of the competent and honest mechanic. They are teaching the public the importance and value of good work, and every job of skin-plumbing which they condemn, and every piece of blundering stupidity which they expose, directly tends to raise the tone of the trade. The sanitary engineer or inspector does not compete with the plumber—he makes work for him;—if he competes with any one, it is the architect or builder. How far it is necessary or desirable that the Sanitary Inspector should have a practical knowledge of plumbing is a question—undoubtedly such knowledge would be useful, yet the best sanitary inspectors in this country or in Europe probably could not set a closet or bath-tub and do all the work with their own hands.

The improvements which have been made of late years in systems of house-drainage, to secure proper traps and adequate ventilation, have not received the recognition of their merits which the educated part of the public now gives them through the exertions of plumbers, even if the latter have devised them, which is not the case for all of them by any means.

If a much larger proportion of physicians than is now the case, interested themselves in the subject of house-drainage, it would be the better for the plumbers as well as for their patients, and we believe that most competent mechanics would promptly admit this.

We are glad to learn, however, that some plumbers at all events are sensitive to criticism, for it is an encouragement to continue it, and if they do not wish to be ridiculed they certainly should not accept as grievances the statements set forth by Mr. Remick.

DESQUAMATIVE PNEUMONIA—BUHL'S PNEUMONIA. DOES IT EXIST?

IT is well known that more than twenty-five years ago, BUHL suggested this term for an acute pneumonic process, which consists primarily in a swelling, nuclear proliferation, and desquamation of the epithelial lining of the air-vessels—phenomena which really depend upon a serous infiltration of the alveolar walls, the parenchyma of the organ. It occurs in three degrees: the first and least marked being one of the symptoms of severe general processes, bearing the same relation to them as do alterations in the kidneys, heart, muscles, etc., which are usually termed "parenchymatous." Whence the term parenchymatous pneumonia would also be appropriate for it.

The second form, which is inflammatory from the beginning, Buhl terms *genuine desquamative pneumonia*. It bears the same relation to the first form that true parenchymatous nephritis does to collateral affections of the kidney in severe constitutional disease. In this form, to the phenomena of desquamation are added a hyperplasia of the connective-tissue cells of the alveolar walls and a decided pigmentation of the latter. The process is more really a "parenchymatous" inflammation, and, while recovery is not impossible, it generally passes over into cirrhosis or fatty degeneration.

The highest degree is that which terminates in fatty degeneration, and is known as cheesy tuberculous pneumonia. The process usually extends through an entire lobe, and especially an upper lobe, or even an entire lung, in which event it begins in an upper lobe, and extends thence downward. The cheesy tubercular pneumonia, always primary, is the localized expression of a constitutional tendency, without a focus of infection. As such, it is opposed to miliary tuberculosis, which is always secondary, and due to an infectious irritant.

Well described and defined as appeared to be this process, it is evident that, if the most recent doctrines growing out of the discovery of the bacillus tuberculosis prevail, the fundamental idea on which this third form of desquamative pneumonia of Buhl is based is withdrawn. If it is the specific bacillus which causes tuberculosis, then there can be no tuberculous pneumonia, the result of a constitutional tendency, and although it is not impossible that a rapid caseating pneumonia may supervene upon a disseminated miliary tuberculosis, such supervention must be very rare. And in a recent paper (*Deut. med. Wochenschr.*, May 2), NAUWERCK attempts to prove by observations at the post-mortem table, and by the microscope, that this *a priori* deduction is correct. His position at the Zürich clinic gave him the opportunity of seeing many cases corresponding in all respects in their clinical histories with those described by Buhl as characteristic of his desquamative pneumonia (lobar tuberculous pneumonia)—that is, the patients had scarcely reached or slightly passed their twentieth year; frequently belonged to tubercular families; had previously shown pulmonary symptoms; the attack commenced like croupous pneumonia, but in an upper lobe of the lung, extending thence to a part or whole of a lower lobe, sometimes partially improving, never terminating in recovery, but after weeks or months of illness in death. Nauwerck's most rapid case died in six weeks. At the autopsies, the affected lobes in the rapid cases were in a state of more or less diffuse caseous infiltration; in the older ones were noted cavities, an overgrowth of cicatricial connective tissue, etc., and most frequently the lobes were in a state of slate-colored induration, uniformly perforated by cavities, producing an appearance which he compared to that of a coarse sponge.

Here, however, the correspondence with Buhl's picture ceased. Microscopic and even closer macroscopic examination in no way sustained the diagnosis of primary cheesy pneumonia. In no instances were there old alterations at the apex, pleural adhesion, or slate-colored induration; while there were always present cavities communicating with the branches of the bronchial tube, and Koch's tubercle-bacilli were found in all sections, whether through cheesy portions, or through parts in which the normal structure was not destroyed by the cheesy infiltrate.

From such facts as these, Nauwerck concludes that all cases corresponding clinically with Buhl's description, and anatomically presenting the above described features, including cavities at the apex, originate not as lobar, but as confluent lobu-

lar pneumonias; that they are caused by the aspiration of cheesy purulent matter, loaded with specific bacilli, in which the preëxisting cavity in the apex always abounds. These are drawn from the cavity into the communicating bronchus, and thence into the smaller bronchioles leading to the infundibula, in which they light up tubercular processes.

INFANT MORTALITY.

As the season has arrived when a greatly increased death-rate amongst infants is to be expected, no effort should be spared in the prompt use of measures known to be effective in counteracting or lessening the preventable causes of sickness amongst the young. The appalling waste of human life in the summer months from causes plainly within control, suggests a broad and fruitful field for the noble work of the sanitarian and philanthropist. A marked increase in mortality from influences associated with the season, is inevitable, notwithstanding the best hygienic surroundings; but a large proportion of the excess of deaths, especially among those of tender years, can be clearly traced to a violation of the precepts of sanitary law.

Ignorance, poverty, and crime, are the conditions mostly at fault in the class of society from which the excessive mortality is derived, and it is to the improvement and amelioration of these conditions that special and persistent effort must be directed, if tangible results are to be expected.

Upon the municipality there rests a heavy responsibility. The removal of all injurious influences strictly within public control is a bounden duty. Thorough cleanliness of the streets and surroundings of habitations, particularly in densely populated districts, prompt removal of all refuse matter, an adequate supply of pure water, the rigid inspection of food supplies, and the judicious inspection of habitations with the object of improving the homes of the poor: are all matters that require the most constant attention at this season of the year.

The instruction of the ignorant with regard to the management of infants during the heated term is a subject which has of late attracted especial attention. Tracts containing plain instructions to mothers have been and should be each year freely circulated in most of the large cities, and the importance of this practice cannot be too highly estimated in view of the extreme ignorance on the subject existing among the masses.

Public effort though indispensable is necessarily restricted, and must be largely supplemented by the labors of the benevolent and philanthropic. Noble efforts are being made by individuals and charitable organizations to improve the conditions of the poor by instruction, advice, and substantial assistance in cases of absolute need, and in warding off sickness, and in relieving the sick and suffering amongst the destitute. The procurement of temporary homes in the country for the children of the poor, under the direction of the Children's Country Week Association, has been the means of saving many a life which would otherwise have been sacrificed in the season of torrid heat.

The Sanitarium Association, which daily provides, free of cost, the advantages of fresh, pure air and wholesome food, upon an island in the Delaware, for thousands of children gathered from the foul courts and alleys of the city, is another means of overcoming the deadly influences which are always operating on infant life in crowded districts in the summer season. Akin to these institutions are the Sanitarium at Baltimore, *The Tribune* fresh-air fund, and the St. John's Guild in New York City, their object being to afford poor children an opportunity for obtaining fresh and pure air during the warm months. The Children's Seashore House, at Atlantic City, for Invalid Children, should also be mentioned as one of the successful means of combating the injurious influences of summer life in the city, though the scope of its usefulness is necessarily limited.

Such institutions may be taken as illustrations of the agencies which are most serviceable in contributing to the comfort and enjoyment of the children of the poor, and in warding off sickness, restoring health, and preventing the needless sacrifice of human life. As such, they commend themselves to the hearty sympathy and liberal support of the charitable.

CAUSES OF ALBUMINURIA.

PENTZOLD has recently reported to the Congress of German Physicians the results of a most important series of experiments upon animals, made with a view to determine the effect of different substances used as foods and medicines in producing albuminuria.

The first agent experimented with was alcohol, on account of the importance which has always been attached to it in relation to renal diseases. Twenty-five to thirty cc. (about f℥j) were administered (daily?) to a dog, and in the course of three months, albuminuria and decided fatty degeneration of the renal epithelium supervened. The ingestion of amylic alcohol also, the usual alcoholic impurity in whiskey, was followed by death from acute nephritis in seven weeks; as was also the ingestion of 200 cc. at one dose.

In like manner the presence of ergot in moderate quantity in the bread consumed by dogs produced albuminuria and fatty degeneration. So also mustard ingested for six months produced tem-

porary albuminuria and fatty degeneration of the uriniferous tubules. Pepper acted similarly, and radishes were followed each time by an albuminuria lasting a few days. Even tea produced in one case decided albuminuria, and in certain small dogs the administration of twenty grammes a day was followed by a sediment composed of white blood-corpuscles, fatty epithelium, and granular tube-casts.

In consequence of the frequency of albuminuria in cases of diabetes, Pentzold fed dogs with ordinary grape-sugar and very soon produced albuminuria, the dogs dying in one month after having taken 1400 grammes; and after death there was found decided fatty degeneration of the cells lining the convoluted and straight tubes, while there was no sugar in the urine.

While it was impossible to estimate from these experiments the effects of the same substances on human beings, Pentzold very properly characterizes them as pointers whence we may regulate the use of certain food elements by albuminuric patients.

As to drugs, there is an unfortunate discrepancy in the report (*Deut. med. Woch.*, May 16), and we look anxiously for a revised and corrected statement. Thus Pentzold found that tannin, whether in large or small doses, was without effect; sodium acetate diminished the secretion of albumen considerably; potassium acetate, pilocarpine, and digitalis, on the other hand, in large doses, increased it—pilocarpine fourfold, and digitalis twofold. In the next paragraph, however, Pentzold in speaking of the therapeutic deductions which may be made from the latter series of experiments, says tannin, digitalis, and pilocarpine produced no alteration in the secretion of albumen; on the other hand, sodium and potassium acetate in moderate doses appeared to exert a favorable influence. Notwithstanding these descrepancies we think it important to lay these facts before our readers without delay.

Pentzold advised, in conclusion, that experiments should be made with digitalis, conducted in such a way that the blood-pressure be kept under accurate observation, with a view to determine whether increasing or lowering the blood-pressure influenced in any way, the filtration of albumen through the kidneys.

SOCIETY PROCEEDINGS.

A GOOD deal of our space has, of late, been naturally devoted to the annual sessions of State and other medical societies. Their proceedings may be fairly considered as the mirrors, reflecting the operation and position of the profession to date, and as such they are worthy of attentive perusal.

Any one who has even cursorily examined these proceedings as they have appeared in our pages during the past three months cannot fail to have noted that there are great differences in the quality as well as the quantity of the material which makes them up. At the same time we think it well that good, bad, and indifferent should all be published. The opportunity of comparison is afforded, and the societies which are deficient, noting their deficiences, can labor to correct them, and those whose work is creditable, be stimulated to make it more so.

It must be admitted, however, that the proceedings of our societies, even at their best, compare but ill with those of foreign countries,—at least with those of Germany, of England, and of France. Any one who may have read the proceedings of the Society of German Physicians at its recent session at Wiesbaden, or of the 12th Congress of German surgeons at Berlin, or of the Academy of Medicine of Paris, cannot fail to have been struck with the originality and practical value of the papers read before them, and the large amount of information brought out by the discussions. This is because these discussions are participated in by the leaders in the profession, while with us the best men, as a rule, keep aloof from the meetings. We have already presented to our readers the essential portions of some of these.

The first question which naturally suggests itself is, Why this superiority? Doubtless more than one element contributes to it. In the first place, the more thorough training and broader general and professional culture of the foreign physician qualify a larger number to become contributors, through experiment and observation, to our knowledge. Again, of those at home qualified to observe and pursue original investigations, many are so tramelled by the multiplicity of duties which naturally devolve upon them in the methods of practising and teaching still necessary in this country, that comparatively few are left who have the time to investigate. Finally, we regret to have to say that the organization of our Societies is generally such as to discourage the interest and attendance of those who might, by reading papers and joining in discussions, furnish much valuable information. Too often office is given to those who are least qualified, and who would never be thought of for these positions if they themselves had not sought them, or if some absurd notion of the geographical distribution of office had not influenced their appointment.

We feel, however, that a better day is dawning upon us, and its results are seen in the proceedings of the Societies organized for the development of the specialties, where no such elements as those last referred to are apparently allowed to operate, and where good work is being done; as witness the Proceedings of the Laryngological and Neurological

Societies, which have recently concluded their sessions in New York.

So, too, as the general and technical culture of our medical men becomes broader, and their leisure for special work greater, we may expect to see these influences operate in securing us a better class of communications, and more original investigation.

REVIEWS.

STUDENTS' GUIDE TO DISEASES OF THE EYE. By EDWARD NETTLESHIP, F.R.C.S., Ophthalmic Surgeon to St. Thomas' Hospital and to the Hospital for Sick Children. Second American, from the second revised and enlarged English edition. With a Chapter on Examination of Color-Perception, by William Thomson, M.D., Professor of Ophthalmology in Jefferson Medical College.

THE early demand for a second edition of this excellent little manual shows that it has met with the appreciation and success that it deserves. It has been somewhat enlarged, a number of new woodcuts have been added, and some changes have been made by the author in his arrangement of the contents. The chapter by Dr. Thomson on the examination of railway employés gives interesting and instructive information upon a subject that has recently attracted much attention, not only in the medical profession, but in the general public as well.

The student or physician who seeks to obtain a practical knowledge of the affections of the eye without too much sacrifice of time, imperatively demanded in many directions, will nowhere find a more satisfactory *multum in parvo* than is offered here.

SOCIETY PROCEEDINGS.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, April 4, 1883.

THE PRESIDENT, S. D. GROSS, M.D., LL.D., D.C.L., IN THE CHAIR.

DR. J. M. BARTON read a paper entitled

SEPARATION OF THE EPIPHYSIS OF THE HEAD OF THE FEMUR.

This accident is so rare that it is scarcely mentioned in any of the great systems of surgery.

Hamilton, in his edition of 1875 of his work on *Fractures and Dislocations*, reports four cases, and states that "these four constitute the only examples of this accident which I find reported, or of which I have any knowledge, and although there may be much reason to suppose that the diagnosis was correct in each instance, I cannot regard any one of them as actually proven." In his last edition he has added two very briefly reported cases to his list. Under these circumstances I regard the history of this case, and the manner in which the injuries were received, as worthy of being placed upon record.

In May, 1881, I saw, with Dr. Minich, of this city, John L., aged 15 years, who a few days before, while working in his father's mill, had received some injury to his hip. While crossing the yard, carrying a large bundle, a companion, in play, pushed against him, the bundle came to the ground, and he saved himself from falling by resting his hands on it. While in this position, leaning forward with his hands resting on the bundle, a second push turned him over, and he came to the ground seated, supporting his weight by his hands. His hip came but lightly in contact with the ground, if at all.

On examination we found one inch of shortening; the foot was everted, though somewhat stiffly, the outer edge of the foot not lying on the bed, as in senile intracapsular fracture, but making an angle of about twenty degrees (20°) with the surface of the bed. The knee and small of the back were in contact with the bed at the same time. The fascia lata was relaxed. The trochanter was higher, more prominent, and nearer the anterior superior spinous process than its fellow of the opposite side. There was no spasm of the muscles about the hip. The buttock was flattened, and the gluteo-femoral crease was not well marked.

Under ether the limb was as readily and fully rotated as its fellow, the trochanter describing a large arc of a small circle, or, in other words, rotating on its own centre, and not increasing its distance from the median line of the body. On extending the limb it readily acquired its full length, and all deformity disappeared, both shortening and prominence of trochanter immediately reappearing on relaxing the extension.

During these manipulations crepitation of an unusual kind was felt, as though large surfaces of denuded bone were being rubbed on each other. Placing the patient on his side, the knee of the injured leg can be made to go three inches further posteriorly than its fellow. The wasting of the buttock suggested further inquiry, and it was found that the boy had slightly limped for some weeks, and had had pain in the inner side of the knee. Yet notwithstanding these evidences of beginning coxalgia, he had been able to work and take an active part in play with his companions. Within a week prior to the accident he had engaged actively in a game of foot-ball, using the now injured limb to kick the ball, and felt no inconvenience from so doing.

The case was readily determined to be none of the usual dislocations, but the presence of the inflammatory action suggested the possibility of, 1st, a rupture of the "Y" ligament, and a dislocation without characteristic deformity. 2d. An unusual dislocation. 3d. The absorption of the head of femur and of acetabulum and resulting dislocation on slight violence. 4th. fracture of the neck or rather separation of the epiphysis in a congested and perhaps inflamed bone.

The usual and unusual dislocations were readily excluded. 1st. By the absence of the characteristic deformity and the inability to find the head of the femur in any unusual situation. 2d. By the ease which under ether, full extension was made, obliterating all deformity, and the immediate reproduction of all symptoms on relaxing the extension. 3d. That during full rotation of the limb, carrying the toes from full inversion to full eversion the trochanter rotated on its centre and its distance from the median line of the body was not increased. The dislocation occurring in advanced coxalgia was excluded. 1st. By the patient's ability to freely and violently use the limb immediately prior to his injury. 2d. The fact that the deformity was immediately reproduced on relaxing the extension; in cases of dislocation in advanced hip-disease, the head of the femur catches in and perhaps remains for a short time in the enlarged acetabulum during examination. 3d. The same test as was used to exclude the other dislocations, viz., the distance of the trochanter from the median line not being increased on full rotation.

The diagnosis of separation of the head of the femur was made, the patient was placed in bed with extension, sand-bags, and additional support at the region of the injury. He was kept in this position in bed five weeks, during which time there was less than half an inch of shortening. On carefully removing the extension at

the expiration of this period, the original deformity immediately returned.

The boy wore, for a few weeks, a hip-joint apparatus with shoe attached, and perineal bands upon which the weight of the body could rest when the patient was walking, to permit the gluteal muscles to accommodate themselves to the pressure of the trochanter. One year later the shortening had increased to one and one-half inches; he moves the limb freely and strongly and has an unusual amount of power in rotating it; with the exception of a slight limp, he has entire control of the limb.

I have spoken of the increased distance of the trochanter from the median line in certain dislocations. I am not aware of this test having been published, but I have carefully examined it on the skeleton, and verified it often on the cadaver and on patients.

In making the examination, I place the patient on the floor or other unyielding surface; if the limb be dislocated, it will either not rotate freely, and this is the case in the usual dislocations where the integrity of the "Y" ligament is preserved; if it rotates freely, either the trochanter describes an enormous arc which is quite conspicuous, or the trochanter materially increases its distance from the median line; this applies only to dislocations in which shortening is one of the symptoms. The amount of increased distance of the trochanter from the median line is best determined by placing a large book against each trochanter, rotating both legs and measuring the distance of the book from the median line of the body. I would like to call attention to a ready method of accurately measuring shortening in injuries of the hip.

The method I have been in the habit of using is to first accurately mark both anterior superior spinous processes with an aniline pencil. It is sometimes difficult, where the ilium is much curved, to exactly determine the position of "the process;" under such circumstances, I mark the curve of the ilium for a couple of inches, then, as a radius to the curve, I draw a line at the process; if an error in the marking be made, it will be very conspicuous.

Now, having the anterior superior spine accurately marked, with the patient lying on his back on a flat, unyielding surface, with both feet at right angles to the legs, pass an inelastic cord around the hollow of the foot, and bring both ends to the corresponding spinous process. I feel satisfied that a very slight difference in length of the limbs can be readily detected by this means.

DR. WILLIAM HUNT alluded to the diminished value of accurate measurements in the treatment of fractures of the lower extremity, especially of the thigh, since the fact of asymmetry in the same person—irrespective of injury—had been found to exist in most cases. Where the shortening is due to overlapping, it is mostly appreciable by examination at the seat of fracture, and is of course to be corrected; but where the amount of it is fractional, and not apparent to the eye, and is only made evident by careful measurements, it may be fairly assumed that the patient was unsymmetrical before he met with the accident. Dr. Hunt spoke of a letter he had received from Sir James Paget, in which that distinguished authority acknowledges his dissatisfaction with the results of measuring, and rather relies upon his eye than upon the tape.

DR. J. EWING MEARS remarked that he did not think epiphyseal separation of the head of the femur so rare an occurrence as stated by the author of the paper. The junction of the epiphyses to the shaft of the bone does not begin until after puberty, and is not completed until the twentieth year. It would therefore seem quite possible for separation to occur as the result of injuries to children, and, being unrecognized, would not be recorded. He was inclined to believe that in some instances of inflammation of the hip-joint, consequent upon injury, epiphyseal separation, more or less complete, had occurred.

SPLINT FOR SYNOVITIS OF WRIST-JOINT.

DR. J. M. BARTON exhibited to the Society a splint which he had been in the habit of using for some years in cases of synovitis of the wrist-joint; it is a light and convenient method of applying extension, permitting nearly entire concealment of the splint and some use of the fingers.

The splint is made of wire, is about eleven inches long and from one and one-half to two inches wide; it is placed on the palmar aspect of the hand and forearm, reaching from below the bend of the elbow to the metacarpo-phalangeal joints.

The upper extremity (B) is slightly indented to receive the adhesive plaster used in the counter-extension. On the lower extremity (A) the extending band plays. The extension is maintained by a piece of heavy nipper elastic, which is fastened to the upper cross wire at (B), and to the extending band after it passes over the roller at (A).

The extension is made by sewing a heavy kid-glove on the hand, cutting off all the fingers of the glove except that of the middle and ring fingers; these two are split down the back and retain their attachment only to the palm of the glove; they are passed over the roller and attached to the rubber extending-band, the upper end of which is attached to the upper cross-bar of the splint at (B). The counter-extension is made by two strips of adhesive plaster, each two inches wide and thirteen inches long, reaching from the wrist-joint over the upper extremity (B) of the splint and down again to the wrist; a light bandage from the wrist up keeps the adhesive plaster in place; the extending band, viz., the glove fingers, are attached to the rubber band by a piece of cord; the extending force is determined by the amount of tension of the rubber band, about one pound of pull being quite sufficient.

Dr. Barton presented also a patient with a splint on, that she had worn for the last five weeks; she had suffered from synovitis of the wrist for six months; she had been leeched, blistered, painted with iodine, worn a plaster dressing, etc., without effect; now, however, she is entirely relieved, the wrist is freely movable without any pain or tenderness, showing that this splint maintains an effective extension while worn. He does not claim any new principle, but only a more convenient apparatus than the usual one, where the elastic extension is maintained on a splint reaching several inches below the fingers.

SUPRA-HEPATIC ABSCESS WITH OBSCURE SYMPTOMS DURING LIFE.

DR. PACKARD gave a verbal account of the following case:

Mr. F., æt. 36, was seized March 14, 1883, at about noon, with sharp pain in the right side of the abdomen as he was descending a staircase. The pain soon abated, and he walked home, about half a mile; but on the way had so violent a recurrence of the pain that he could scarcely walk. At about 1 P.M., when I saw him, he was lying on his bed in great agony, unable to move at all.

By the use of a large enema of Castile soap and hot water, an opium suppository, and the internal administration of chlorodyne in small doses frequently

repeated, relief was given for some hours; but in the evening he had another severe attack. I now learned that Dr. George A. Rex had been consulted by him on account of dyspeptic symptoms several times during the winter, and at my request he took charge of the case along with me.

On the 15th, although he was in less pain, the symptoms of obstruction were unchanged, and the possibility that laparotomy might eventually be indicated was considered. Dr. Ashhurst, at my request, was also brought into the consultation, and agreed with us that an operation would be called for if other means failed to give relief. Leeches were applied over the seat of tenderness, and mercurial ointment; the anodynes were continued.

The leeching seemed to do him much good, and another enema brought away some fecal matter from the colon. After this the acute symptoms subsided, and after several days the bowels were moved without enemata. Yet he did not rally; his evening temperature continued to be above 102°, and his morning temperature over 100°; and his condition resembled enteric or typhoid fever. I attended with Dr. Rex until March 22d, when I ceased my visits until they should send for me.

March 31.—I was summoned in great haste in the morning, and found Mr. F. coughing up large quantities of excessively fetid pus, tinged with blood. He seemed very much prostrated, partly perhaps by the sickening effect of the odor of the expectorated matter. From this collapse, although stimulants and carbonate of ammonia were freely given, he never rallied, and death ensued in about three hours.

Autopsy, April 1, at 2 P.M. Body in ice; not much emaciation; no rigor mortis. An immense abscess, with walls lined with croupous lymph, was found occupying the space between the diaphragm above, the right lobe of the liver below, the suspensory ligament at the inner side, and the abdominal wall at the outer side. This had communicated with the right pleural cavity by an opening through the diaphragm at its posterior part. A good deal of sero-purulent liquid was contained in the pleural sac. Evidently there had been effusion from this serous membrane in addition to the pus.

The quantity of the liquid could only be approximately estimated, but seemed to be over a quart. The orifice by which the effused matters gained access to the air-passages could not be detected without a longer and more careful exploration than could be instituted.

On the first opening of the chest, the right lung was compressed, especially in its lower lobe; but the air subsequently entered this portion of the organ, and it resumed its normal appearance.

Between the duodenum at its very commencement and the parietal peritoneum of the right side, there was a close and firm adhesion, pulling the stomach out into an almost tubular shape; but beyond this there was no sign of any peritonitis other than that in the region of the abscess. All the other organs except those mentioned seemed normal.

STRANGULATED VENTRAL HERNIA, REQUIRING OPERATION.

DR. PACKARD reported the following case:

Mrs. James, colored, æt. 57, had had a hernia a little above and to the right of the umbilicus since a severe confinement about twenty years since. It had often given her some trouble, but she had always succeeded in returning it herself, except on one occasion, some months ago, when it was out for three hours, and was then reduced by taxis by Dr. R. A. Cleemann.

Dr. Wirgman and myself were called to her at 4 P.M., March 21, 1883. The hernia had been out about four hours. She had no pain, no vomiting; but could not replace the mass. We tried the taxis, at first without and then with anæsthesia, but to no purpose. She was ordered a large enema of castile soap and water, and then an opium suppository; and ice to the tumor.

At 8 P.M., we saw her again, and found the tumor increased in size, still painless, though somewhat sore. A thorough attempt at taxis failing to produce any impression, the patient being etherized, it was decided to operate, which I accordingly did, with the aid of Drs. Wirgman and Horwitz, and Mr. Shober and my son, medical students.

I made a curved incision, embracing about one-quarter of the circumference of the tumor, at its upper and right aspect, and came of course at once upon the sac, after dividing the skin and fat. Reduction being still impossible, I opened the sac, and found a large mass of omental fat, beneath which was a double knuckle of bowel, quite purple, distended, and velvety in surface. I could not replace it until I had nicked the firm edge of the stricturing ring with a Cooper's knife, and not very easily even then, but as the stricture was relieved the bowel resumed its normal color. It was carefully washed with hot carbolized water, and after thoroughly replacing it, with all of the omentum that could be returned, I passed a silver-wire suture through the edges of the ring, and brought them together as closely as possible, twisting the wire six times from left to right, and allowing the long ends to hang out of the wound (traversing the sac, of course). The wound was then closed with four harelip pins, and a number of points of the interrupted suture. A carbolized water-dressing was then applied, and a bandage around the belly. Another opium suppository was given. The patient took the ether well, and at the close of the operation was in good condition.

March 22.—She has had during the night one or two sharp but transient attacks of pain.

23d.—Doing fairly well, although she has had at times some slight delirium; pains less severe; no marked tympany. One dozen leeches applied to belly, and afterwards a large wad of raw cotton. Tr. Aconit. Rad. with neutral mixture.

24th.—Harelip pins removed. Wound seemed to have adhered. Temperature 102°, otherwise better.

25th.—Bowels moved naturally.

27th.—Wound gaping, but not widely. A good deal of sloughing fat and areolar tissue coming away. Pulse and skin good; tongue slightly furred; some little pain in the night.

From this time on there was very little change, except for the better. The sloughs separated and came away, and the wound assumed a healthy granulating aspect, but still tended to gape so widely that

April 2.—I passed a large pin across through both lips of the wound, taking a very deep hold on each side, and applied a ligature around the ends, as in an ordinary harelip suture. This brought the edges quite closely together throughout, and she is in every other respects doing well.

The result of this case will be hereafter reported.

DR. WM. HUNT said that he was inclined to doubt the statement made in the books, that a purely omental hernia could give rise to as severe symptoms when strangulated as when the gut was involved. His disbelief arose from the fact that in the treatment of wounds where omentum projected, and also in some cases of hernia operation, we could safely treat the omentum most unceremoniously by purposely strangulating it with ligatures. He asked for an explanation of these facts.

His own idea was that in most cases there was a small portion of intestine involved, as even a portion

of the wall of a gut might be pinched, and give rise to symptoms of strangulation.

The great mass of the kind of hernia under consideration being omental, a small portion of gut might not be recognized before reduction. In his own experience, he could not call to mind a case of purely omental hernia upon which he had operated. He once made a post-mortem examination upon the body of a young man who had died with the symptoms of peritonitis and strangulation, but in whom no tumor could be discovered. A portion only of the wall of the bowel was pinched and strangulated in the canal.

DR. HUNT said he had seen cases of enormous collections of gas in the bowels in hernial sacs, but that these were generally of the reducible form. One case he remembered, where this was not so; the patient was an old and feeble man. The bowels were punctured in several places to let out the gas, but the patient died before they could be replaced.

DR. MEARS said in reply to a question by the Chair, that he had in one instance facilitated the reduction of a femoral hernia by the use of the hypodermic needle as an aspirator, withdrawing from the intestine gas and fluid.

DR. J. M. BARTON inquired of the Fellows if hemorrhage during the division of the stricture in the operation for strangulated hernia was not a bugbear and quite unusual, and what experience the Fellows had with hemorrhage under such circumstances, and what methods they had used to check it.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, June 6, 1883.

THE PRESIDENT, ALFRED STILLÉ, M.D., IN THE CHAIR.

DR. S. WEIR MITCHELL read a paper on

THE RELATIONS OF PAIN TO WEATHER, STUDIED DURING ELEVEN YEARS OF A CASE OF TRAUMATIC NEURALGIA; BY CAPTAIN R. CATLIN, U. S. ARMY, WITH NOTES BY HIMSELF.

In *The American Journal of the Medical Sciences*, April, 1877, he said, I described the case of Captain Catlin, U. S. Army, and gave the results of his observations on the relation of states of the weather to his own pain. These studies, suggested by me and carried out with care, at length became of equal interest to the observer, and, with occasional advice, he has continued to keep notes, until the the record, with his comments, constitutes, in my opinion, a most valuable contribution to the strict science of medicine.

For full details of his case, I must refer to my essay, but it is needful here to make a brief statement explanatory, so that what he now says may be comprehensible without reference to the former record.

In August, 1864, Captain Catlin, then in perfect health, had his food crushed in battle by a round shot. There was no shock; the leg was amputated below the knee, and he was up and about in a month. Pain was felt early in the lost foot, and became severe within nine months.

I should perhaps state that, except as concerns pain, the observer is in admirable health, that his attacks are so definite as to coming and going, as to create little difficulty in this direction, and that from his former position as instructor in certain scientific branches at West Point, he is well qualified by training to pursue this difficult study. The weather reports of the Signal Office and his own, or the daily observations of others, have enabled him, from time to time, to relate these to his record of neuralgia, and by this method he has avoided the constant presence of daily thought as to what was about to happen in consequence of atmospheric changes. I may add that I never knew any man more free from unwholesome attention to his own ailments. Most of what I learned from our former study, still stands unaltered by this much longer record; but there have been some fresh and suggestive gains in the relation of pain to meals, to daily barometric changes, and to magnetic conditions.

The following is the report of the case for the past seven years, made by Captain Catlin:

For the year 1872 there were 1783 hours of pain (the records for 1873 and 1874 are incomplete); for 1875 there were 1892 hours; for 1876, 1790 hours; for 1877, 1794 hours; for 1878, 1591 hours; for 1879, 1535 hours; for 1880, 1567 hours; for 1881, 1405 hours; and for 1882, 1370 hours. From 1872 the annual amount of pain increased and probably reached its maximum in 1874, a year of high pressure, which, as we proceed, will be found to have some relation to the pain.

For 1875, we have the highest recorded amount of pain. The next year, 1876, the amount of pain fell off 100 hours, with a decrease of the mean annual pressure, equal to 00.021 of an inch, with corresponding increase of temperature. For the following year, 1877, the pain and pressure remained nearly constant and parallel, with some increase in temperature. For the year 1878, there was a remarkable lessening of 200 hours in the neuralgic amount, but by following up the barometric curve an equally remarkable fall is found. The annual mean of the barometer for the year (1878) was 00.068 of an inch below the mean of the previous year, and 00.067 of an inch below the mean for the eight years, the mean for the eight years being 29.916. From the low annual pressure of this year, we may almost infer a high annual temperature, which we do indeed find in the curve, and the Signal Bureau reported for the Middle Atlantic the temperature "above the average" for every month in the year except June. For the year the *number* of pain attacks and the *number* of storms remained about normal, but the *duration* of the pain attacks was shortened.

This law of relationship of low pressure and high temperature to amount of pain, and the number of attacks of pain, and number of storms will become more apparent when we come to the consideration of the quarterly and monthly distribution of pain and storm. Since 1878 the pain has diminished at the rate of forty hours annually; diminution being accelerated by a decrease of mean annual pressure and retarded (or actually held in suspension as in 1880) by an increasing pressure. Making allowance for the annual decrease of pain, there is a remarkable parallelism between the pain and pressure-curve. The yearly temperature bears the same relation to the barometer, as it was found to have in the monthly fluctuations. The total amount of pain for the eight years, ending January 1, 1883, was 12,944 hours, or nearly one-fifth of the time. The distribution of the pain was shown by a curve of the total monthly amounts for the eight years, from which it was readily seen that the winter months hold the advantage as pain-producers, and that for this period while the sun was north of the equator, there were 6,783 hours, against 6,161 hours, while it was south of the equator.

Of the quarterly amounts, the first quarter, beginning with the winter solstice, leads with 3,538 hours, followed by the fourth quarter at 3,245 hours; then the second, with 3,098, and the least in the third quarter (July, August, and September) with 3,063 hours.

Of the monthly amounts, March holds the lead, closely pressed by January, and in order of amounts follow: November, December, May, February, April, August, October, September, July, and June. The number of storms recorded for the eight years is 806, taken from the Signal Bureau Records.

Of this number 529 belong to the winters, against 397 for the summers.

The quarterly numbers, in like manner, correspond to quarterly amounts of neuralgia, and by a reference to the storm-curve there is shown a remarkable parallelism throughout with the pain-curve.

The average *duration* of each attack of pain for the whole time was 18.97 hours; but again we find average *duration* bearing a relation to amount of pain and number of storms.

The average for first quarter being 20.1 hours, for second quarter being 18.4 hours, for third quarter 17.9 hours, and for the fourth quarter 19.4 hours, which we see is directly proportional to storm and amount of pain. The average duration of pain was found to be greatest in February, 20.8 hours, one of the coldest, if not the coldest month, and containing probably the greatest barometric fluctuations of any month in the year.

Although the average velocity of translation of the winter storms be greater than the summer ones, owing to their much greater range and power, they are further reaching, and in consequence produce longer attacks. The hottest month of the year (July) gave the least average duration of pain, being seventeen hours.

This is a month of low average pressure and unimportant and minimum barometric fluctuations. By an examination of the curve of the mean monthly *number* of attacks, there is found an almost exact *monthly* parallelism with the pain and storm-curve, but the mean *quarterly* of the curve would not be as nearly parallel with the mean quarterly of the pain or storm, which shows that the number of attacks of pain is greater in proportion to the number of storms for summer than for winter. Many of the summer storms are difficult to trace, and some are not charted owing to their indefiniteness, but they are nevertheless pain-producers. For this reason it is believed that the relationship of the number of pain attacks to the number of storms is not as disproportionate as appears in the quarterly comparison of the curves.

Passing to the rain-curve, we find it in harmony with the pain and storm-curves, except for a few of the summer months. For these months, owing to the short and heavy precipitation of rain, and local character of many of the storms, the curve does not subordinate itself to the pain, storm, or even barometric curve.

Thus we see that rain-fall of itself is only relatively to be used as a measure for pain.

The barometric curve, as it swings almost a catenary from January to December, measures, with the storm-curve, much more accurately the ordinates of the pain-curve; and here we have reappearing in the quarterly monthly products of neuralgia the law already disclosed in the annual product of pain—viz., high temperature, low barometer, favorable for non-product of pain; and, in addition, minimum barometric undulations, favoring diminution of pain duration.

To determine the average distance of the storm-centre at the beginning of the pain attacks, sixty well-defined storms through ten consecutive months were taken, and it was thus found that the average distance was 680 miles, ranging from 200 to 1200 miles.

Storms from the Pacific are felt the farthest off, very soon after crossing the Rocky Mountains. Those which move along the coast from the Gulf of Mexico are associated with neuralgia not quite so intense, and are not felt, as a rule, until within the average neuralgia distance.

If neuralgia begins on a low and rising barometer, the ridge of high pressure between this and the coming storm-depression is narrow, and invariably broken down within seventy-two hours, and more frequently within twenty-four or thirty-six hours; and during this rise, coincident with the pain, the difference between the wet and dry bulb thermometer, instead of increasing, as is usual with this barometrical condition, sometimes actually diminishes, or increases for a few hours only, and then diminishes, showing increasing humidity.

When this pain and instrumental condition obtains, the coming storm depression will carry on its eastward side clouds and increasing moisture, and sometimes rain or snow, clear over the summit of the advancing high area pressure in front of it, holding an unusually high degree of relative humidity in the air on the high eastern slope of the high barometer area. These are the conditions when the pain attacks on the rising barometer. Its normal condition, however, is with a falling but it may be a high barometer, rising temperature, and increasing relative humidity.[1]

Should the pain be on during a day of intermitting rain, the pain takes an additional activity just before the increasing shower, and continues twenty to forty minutes; this will sometimes happen four or five times in twelve hours. Each little increment of pain seems to bear about the same relation to the showers, as the main attack bears to the storm.

It has always been observed that eating a meal when the pain is on intensifies it, and it is believed that it often hastens the attack. We should then expect to find some rise in the curve after each meal. This we do find at 9 A.M., which cannot be accounted for otherwise than that by eating at 8 A.M.. some of the neuralgia, which really belongs to 10 o'clock, has been prematurely developed, and so changed to 9 o'clock. Again, after the 1 o'clock meal, there is a decided rise in the number, *some* of which, at least, should be chargeable to the meal. It is also worthy of note that there is an ebb-tide in pain, just preceding the meals; not so marked before breakfast, partly, no doubt, because it is with me a little less regular than other meals, and partly because storms coming within neuralgia range during the early and middle sleeping hours, would not ordinarily arouse their victim, but would strike in the morning, as the sleep became less profound.

This, doubtless, is the cause of the rapid rise in the curve between 5 and 6 A.M.

In support of this statement of the respect which a storm may have for its neuralgic subject, it may be added, that if the pain is on when the patient falls asleep, and he is aroused or awakens during the night, he will find himself free from pain; but if he should move about, or stay awake fifteen or twenty minutes, the pain is renewed, unless in the mean time the neuralgia time has expired.[2] At 11 P.M., the average number of attacks is not one a year, and from this time until 6 A.M., there is great immunity from *onsets* of pain.

With regard to the prominent and remarkable feature of the curve on the 11 A.M. ordinate, it cannot be positively stated why the pain has shown this great partiality; but there are some reasons which may be of interest to state. We have found that the years of high mean annual pressure gave high pain readings. We have also found that neuralgia in its relation to storms was not averse to a high barometer, but usually attacked on a falling barometer with rising temperature or increasing humidity.

[1] See same case in American Journal of Medical Sciences for April, 1877, p. 21.

[2] This is true in regard to most pain, and may be within the experience of many men; we fall asleep suffering, but awake without pain, even if the cause of pain remains. A brief period of being awake seems to be needed, in order that the cause may become active. Sleep is a true anæsthetic.—S. W. M.]

The pain in its relation to the diurnal change of the barometer occupies a position analogous to what we found it in its relationship to barometric movements accompanying storms—that is, high barometer, and on its fall preceding the storm, with increasing humidity and temperature. For the eight hours from 9 A.M. till 4 P.M., during the daily fall of pressure, there are 610 onsets against 346 for the remainder of the day, or sixteen hours. The maximum amount of vapor in the air from 2 until 6 P.M., increasing from before sunrise till just before sunset. We have then for the greatest daily neuralgic period a corresponding falling barometer, increasing vapor and temperature, with the analogous condition complete.

In regard to the 11 A.M. period, there are some other points of interest.

By a reference to the diurnal changes in the magnetic curves, we find: in the declination curve two maxima and two minima daily. The principal maximum occurs at 8 A.M., and the principal minimum at 2 P.M. From this minimum in its progressive movement there is a slight undulation in the curve about 10 P.M., giving rise to a subordinate maximum with another minimum following two hours later near the mean of the curve; from this we reach the principal maximum at 8 A.M.

In the inclination curve we have also two maxima and two minima. The leading and principal feature of this curve is its morning maximum which occurs between 10 and 12 M., probably 10.45 or 11 A.M. A subordinate maximum about 10 or 11 P.M. There is a minimum between 5 and 6 A.M., and another about 5 P. M.

Each of these maxima has a corresponding minimum in the horizontal force. So also the minima in inclination correspond in like manner to maxima in horizontal force. Owing to the great and precipitate change in declination between 8 A.M. and 2 P.M. with the pronounced occurrences in inclination and horizontal force at or close to 11 A.M., may we not with some reason suspect these as active agencies in constructing the 11 A.M. neuralgic period?

The two o'clock period is one connected with the highest temperature and the maximum wind force of the day. It is believed that hours of maximum and minimum rain-fall have some influence on this curve. The British Government[1] has published some observations which, although not conclusive, seem to show that there are two daily maximum rain-falls, one at 7 P.M. and one at 5 A.M.; also two minimum periods, near noon and midnight. It is believed, further, from sensible impressions and limited observations, that solar and earth's radiation have an influence on the daily character of the neuralgia, and, if fully studied, would assist in interpreting some features of the curve not fully understood. With complete record of *local* meteorology, including radiation, there seems but little doubt that all the details of the diurnal curve could be demonstrated. There is one additional fact in connection with the onsets of pain which seems curious, and that is the period of drowsiness and sleepiness which precedes the attacks from one to five hours. This rule is not invariable, but is general.

For the seven years from November 7, 1875, to November 17, 1882, there have been nine neuralgic attacks of great and unusual power. These were characterized by pain in nerves not usually attacked. The ordinary neuralgia in the foot is of the burning and boring kind, with twitchings of nerves in the stump, while in the extraordinary attacks, in addition to the pains as above named, we have the intense stabbing variety, with a much higher degree of the convulsive tendency. Accompanying each of these attacks, except the last, we have the pain period dominated by more than one storm in six out of the nine attacks, and in *every* case the low barometric depression was of unusual and enormous extent. The attack of November 7, 1875, began at 7 P.M. and lasted until 2 P.M. on the 8th, and was undoubtedly mainly under the influence of storm No. IX. (as charted by Signal Bureau), while passing from Savannah to a position off Cape May. The depression of this storm "became more extended as it advanced, with increasing velocity; the region of precipitation including the entire Southern and Middle States." By 7 P.M., closely following this attack, was an attack of the regular neuralgia, which lasted 27 hours, to meet the requirements of Storm VI.; and this is a general rule, that these unusual attacks are followed by the regular neuralgia.

The attack of September 29 and 30, 1876, was under the influence of storms IX. and X. of that month. The weather report of the Signal Bureau says: "The map of the 29th, 4.35 P.M., shows that at that time a very large area of low pressure must have existed in British America on the south and east of James Bay, the southern end of which extended southward until on the morning of the 30th, the barometer was below 30 inches everywhere east of Lake Superior. The winds of Georgia and Indiana during this time were from east to southeast.

The attack of April 3, 1877, belongs to Signal Bureau Storms, Nos. II. and III. "An extensive area of cool northeasterly winds prevailed throughout the Gulf States, Ohio Valley, and Lower Lakes." In Middle Atlantic States, northerly winds moving to east with increasing cirrus and cirro-stratus cloudiness. The general depression extended over a large area. The attack of August 3, 1877, belongs to storm marked II. on monthly report. "There was a marked fall of the barometer in the Southern Atlantic States on the 2d, which district was then, in all probability, in the N. W. quadrant of an extensive depression." "N. E. winds prevailed from New York to Florida." The neuralgia attacked at 11 A.M., and at this time in the direction of the storm S. E. there were increasing cirrus and cirro-stratus with bunches of cumuli lower. This storm "united with No. I. over the St. Lawrence. Later in the day thunderstorms in northwest to northeast." The attack of May 31, 1879, corresponds to the extensive storm of No. XV. of Signal Bureau Report for the month.

The attack of October 16th corresponds to Storms IV. and V.; the former coming up the Mississippi Valley unites with the latter from the North Pacific, in Lake Michigan.

The attack of April 10, 1881, is related to Storm III., including Storms II. and IV. as described by the Signal Bureau Report.

It was observed on this occasion, as is frequently the case with this variety of pain, as also in the ordinary kind, that there was a cloudless sky with a delicate milky sheen in the atmosphere, more marked around the horizon. This milky veil becomes more opaque, and the first pronounced cloudiness will be small patches of cumulus, at lower elevation than this hazy appearance. These are storm indications, and favorable for the production of pain. This was the stabbing variety, as in each case here described, added to the other varieties, and was active between the heel and left side of foot.

The attack of February 11, 1882, corresponds to Storm VI. as marked in report of Signal Bureau. At the time attack began, the centre of the storm was six hundred miles westward. This was of wide lateral range and is the only one charted for the month as coming from the Pacific coast.

For the attack of November 17, 1882, Prof. Carpmail,

[1] Prof. Loomis, in Amer. Journ. of Sci. and Art, July, 1875.

Superintendent of the Toronto Observatory, reports more than ordinary declination and force disturbances from the 10th, including the 16th, when "they evidently showed signs of a coming storm." The magnetic storm set in at 5 A.M. on the 17th, and continued with great and intermitting force all day and night, and did not quiet down till midnight of the 18th. The report says, referring to the evening of the 17th, "that the force (horizontal and vertical) instruments, which in the early part of the storm showed a general decrease, now showed an increase, and between 7 P.M. and midnight, the lights several times travelled to both ends of the paper; the bifilar going off a number of times." The extremes of declination were reached easterly at 6.25 P.M., and westerly at 9 P.M. On the 19th, the magnets were disturbed, the disturbances being greatest between 11 P.M. of the 19th and 4 A.M. of the 20th. Many of the force movements were swift and rapid, the last movement of importance occurring at 9.20 P.M. on the 20th. Brilliant auroras reported on the 17th. This storm was unusually severe in England with brilliant aurora on the 17th. The disturbances here probably did not differ materially from those reported from the Toronto Observatory.

There was from the 10th instant, great unrest in all the nerves of the foot, such as feelings of twitching and slight burning, and at no time did the agitation touch the zero line of no pain. At 2 P.M. of the 17th the intense stabbing pains set in and reached the maximum power from 4 to 7 P.M. They continued, however, with great force until 5 A.M. on the 18th, and intermitting and less strong fits of torment were felt till evening; then a period of rest occurred until 9 A.M. of the 19th, when a severe attack of the regular neuralgia set in, with more or less burning and twitching pains throughout the foot, which lasted more than thirty-one hours, and finally went off on the evening of the 20th. The intense neuralgia of the 17th seems connected with the magnetic storm of the 17th, for there was no storm of barometric depression charted by the Signal Bureau within neuralgic range for this date. The last storm preceding this time was storm No. II. which started from the Pacific on the 8th, and for which there was a regular neuralgia on the 9th and 10th. The next storm was No. III., which originated in Texas on the 18th, and the attack of pain of the 19th and 20th was for this storm aggravated by the magnetic condition of these dates. It is firmly believed that neuralgia accompanies intense auroral periods, but owing to their rare occurrence, it cannot be said that the proof is conclusive. The conjunction of the two seems too frequent for mere coincidence.

In regard to treatment, etc., I can say but little. There has been no treatment in a medical way of late. I have had good health, take a great deal of exercise, but in a rather irregular way; my appetite is always good, and I sleep well, except when the disturbance of neuralgia interferes. For the year 1878, in which occurred the greatest diminution of pain for any year, there was the greatest physical weight, reaching one hundred and ninety pounds. Physical exercise, nutritious food (have found milk most fattening of all) and light, aggreeable occupation, are, I found, the best regimen for this neuralgic subject.

DR. HARRISON ALLEN, then presented

A CLINICAL STUDY OF THE CRANIAL NERVES.

The cranial nerves at their nuclei of origin and in the course of their intrinsic fibres may be involved in diseased action. It would seem to be more than a coincidence that the nuclei of the ninth, tenth, and eleventh nerves are arranged in a definite series, forming the trineural fasciculus; and that the nerves themselves are associated in function. But this line of reflection is useless when applied to the nuclei of the sixth and seventh nerves. These nerves appear to have no function in common, and yet they arise, in part at least, from the same nucleus. In their range of variation they have no relation with one another; nor in any animal known to the writer does the sixth nerve spring from the facial trunk, but always (in variations from the human type) from the third. The third, fourth, and sixth nerves are naturally associated; but no reason is assigned for the withdrawal of the nucleus of the sixth from the mid-brain, where the nuclei of the third and fourth nerves lie, to the hind-brain, where it is in association with an alien, namely, the seventh. Associated paralysis of the third, fourth, and sixth nerves is common; but paralysis of the sixth and seventh is rare.

The different symptoms of encranial paralysis may be assigned to one of two groups of causes, viz., to pressure, or to injury. Pressure may affect a nerve remote from the origin of the pressure. A tumor of the cerebellum, for example, has been found to be associated with a facial palsy, although neither the nuclei nor the intrinsic fibres of the seventh were involved. Clinical reports do not discriminate between the direct effects of injury and the indirect effects of pressure. Until the influence of this pressure is known and in each case eliminated, the study of localization of diseased action in the brain must remain in an unsatisfactory state.

Among the localities in which the effects of local pressure have been determined may be mentioned the pontal portion of the medulla oblongata, at which place the inferior vermiform process of the cerebellum may press against the nuclei of the cranial nerves there situated; the third ventricle, where, from a tumor in the corpora quadrigemina, or the pineal body, the lymph of the lateral and third ventricles accumulates in these chambers, and presses downward, notably at the floor of the third ventricle and the lamina cinerea; the region of the hippocampus in the descending horn of the lateral ventricle, which may be distended by the accumulation of fluid in senile states of the brain. Even where the fluid from the larger ventricles is conceived to pass freely along the iter to the fourth ventricle, it is fair to suppose that if this fluid is excessive in quantity, undue pressure will be exerted on the walls of the iter, and that some instances of paralysis of the third and fourth nerves might have their origin in this way.

The causes due to injury of the nerves are of two kinds—primary, when the lesion is due to the direct pressure of a tumor, or a clot of blood; and, secondary, when it is caused by the deteriorating influence of a tract of degeneration in the neighborhood.

Of the first-mentioned, that is to say, of the effects of primary pressure, there is abundant clinical evidence—indeed, it is the only evidence which is indubitable. Of the second, it must be acknowledged that the evidence is purely hypothetical; and as far as the writer knows, no case can be adduced in its support. It may be more than a coincidence that the study of frontal (transverse) sections of the medulla and of the stem of the brain shows that the nerves most commonly paralyzed in hemiplegia of encephalic origin are those whose intrinsic fibres lie in the immediate neighborhood of the pyramidal tract, as this has been defined by Türck, Flechsig, and Charcot. Thus the third, sixth, seventh, and twelfth nerves would be easily influenced by diffusion from the tract of degeneration, while the remaining nerves of the series would escape.

DR. CHARLES K. MILLS said that the subject touched

upon by Dr. Allen was one of great interest to him. With reference to the effects of pressure upon the nuclei of the cranial nerves, he said that, without doubt, some extraordinary and apparently inexplicable affections of cranial nerves were due to such pressure. Intraventricular effusion, however, such as occurs in hydrocephalus, was not likely to produce local paralysis or spasm, because, owing to the free communication between the various ventricles, unless such effusion took place suddenly, the nerve-centres and conductors seemed to accommodate themselves to the pressure, which was distributed over a large area and over nearly all districts alike.

Those cranial nerves which had the greatest peripheral exposure, and the longest and most tortuous course in bone and membrane (the facial, oculo-motor, etc.) were most liable to be affected by syphilitic, rheumatic, gouty, and other similar diseases.

He supposed that the facial and abducens were so often affected independently, because paralyses of these nerves were usually peripheral; the lesions causing them being situated not only beyond the nuclei, but commonly beyond the superficial origins of these nerves. Besides, some authorities claimed separate, although near, nuclei for the sixth and seventh. He had, however, seen more than one case of conjoint paralysis of the abducens and portio dura, presumably due to degeneration of the combined nuclei.

He recalled one case, which he did not think had been put on record, but was well worthy of being detailed in connection with a study of these affections of cranial nuclei. The patient was sent from the South to the Hospital of the University of Pennsylvania by Dr. John Guitéras, and was the victim of complete double oculo-motor paralysis. Associated with this was advanced atrophy and paralysis of both upper extremities. Here he believed the lesion to have been bilateral degeneration of the nuclei of the cervico-brachial nerves, and also of the oculo-motor nuclei. One of the strange features of the case was the fact that the cranial nuclei between oculo-motor and cervical regions (those of the pathetic, trigeminal, facial, abducens, glosso-pharyngeal, etc.) had escaped.

Dr. Mills said, also, that the present was perhaps a good opportunity to put on record an observation on cerebral glosso-labio-pharyngeal paralysis. It is well known that this affection is usually attributed to degeneration of the cranial nuclei; in fact, it is often called "bulbar paralysis." A patient presenting the oral, labial, lingual, and pharyngeal symptoms of this disorder, had died about two years before at the Philadelphia Hospital. Examination showed no lesion of pons or medulla. Along the outer border of both lenticular nuclei, and extending into the external capsule and claustrum, were long, narrow, and somewhat irregular areas of degeneration; softened or broken-down districts surrounded by walls of harder, darker tissue. Kirchoff and others had since reported similar cases, but up to the time of making the observation he had never seen such a case reported.

In conclusion, he said that Dr. Allen had discussed the probability or lateral diffusion of descending degeneration. He thought this lateral extension of degeneration more likely to occur at the top of the system than in the motor tracts, from cell to cell in the central zones rather than from fibre to fibre in the conducting columns. He confirmed Dr. Allen's remarks with reference to the practicability of naked-eye observations of degenerated areas and tracts; and spoke of the brain of a hemiplegic negro murderer, presented by him to the Philadelphia Pathological Society, which showed atrophy of the right cerebral and of the left cerebellar hemisphere, and a connecting tract of degeneration through the pons.

DR. W. W. KEEN referred to one point mentioned by Dr. Allen, the question of the common nucleus for the sixth and seventh nerves, and called attention to an extremely rare and interesting

CASE OF CONGENITAL AND BILATERAL PARALYSIS OF THE SIXTH AND SEVENTH NERVES.

This case he had been requested to see by Dr. George C. Harlan on account of its bearing on the artistic anatomy of the face. Dr. Harlan had reported it in full in the *Trans. Amer. Ophthal. Soc.* for 1881. Dr. Keen had had his face photographed as well as copies taken of a photograph in childhood. Unfortunately the existence of the latter was not known until the more recent photograph had been taken, or the point of view would not have been reversed.

At the date of examination he was eighteen years old. His expression in the second photograph it will be seen had scarcely changed at all from that of the earlier one. His face had simply enlarged. The condition had existed from birth. Not a muscle of the face responded either to the will or to the battery. The corner of the mouth could be slightly depressed by the platysma. Salivation was normal; hearing was good; speech perfectly intelligible, and only affected by the want of control over the lips; taste and sensation in the tongue were unaffected.

There was double internal strabismus; the cornea was slightly dull; vision O.D. $\frac{20}{126}$ and O.S. $\frac{20}{C}$; not improved by glasses; the impairment was chiefly due, apparently, to constant epiphora; ophthalmoscopic examination unsatisfactory, but the fundus seemed normal. Fixation was with the macula in each eye. No diplopia.

The absolute, bilateral, and congenital absence of function of the sixth and seventh nerves, without any involvement of the chorda tympani, points clearly to defective development of the nucleus common to the sixth and seventh nerve, and tends to confirm the assertion of Sapolini (*Amer. Journ. Otology*, Oct. 1881, p. 312) of the differentiation of the chorda by origin from a distinct nucleus as a thirteenth cranial nerve.

In reply to the discussion elicited by his remarks, DR. ALLEN thought that the manner in which the effects of locomotor ataxia are witnessed in the spinal cord confirmed his own impressions with respect to the manner by which diffusion can take place about a tract of degeneration. It is well known that in this disease the central ravages are not confined to the postero-lateral column in which they are initiated, but extend to the postero-median column, and may even pass over the postero-median fissure. A yet more striking instance is seen in the experiments of Gudden, who extirpated the eyes of rabbits, and observed the change that took place in the optic tracts. It was found that the paths of degeneration were not limited to the visual lobes of the corpora quadrigemina, but had involved adjacent structures by diffusion. The effects of degeneration seen in the peripheral nerve trunks, where they were strictly limited by reason of the medullary sheaths, would not serve as precedents for the localization of similar effects in the central nervous system, where such sheaths are often absent.

THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday Evening, May 10, 1883.

VICE-PRESIDENT, F. P. HENRY, M.D., IN THE CHAIR.

TYMPANIC CARIES PRODUCING SUB-DURAL ABSCESS OPENING INTO THE LATERAL SINUS.

DR. DAVIS presented a specimen with the following history: Neil D., aged 18, was admitted into Prof.

Agnew's ward in the Pennsylvania Hospital with the following history: When he was five years of age, he had measles, and since that time he has had suppuration of the right middle-ear. It discharged at intervals. Two weeks previous to admission he had acute pain in his right ear, and a week later it began discharging. He had severe headache ever since he was first attacked. The pain was situated principally towards the front, but existed also towards the sides of the head. The discharge was profuse and offensive. He was emaciated, his face was haggard, pale, with a slightly yellowish tinge, he had an anxious expression of countenance, and altogether looked very badly. His mother says that this change occurred entirely during the two weeks prior to admission. The ear was cleansed and astringents applied; the discharge ceased in about six days. Bromide of potash failed to relieve the headache, but morphia hypodermically gave temporary relief. He held his neck stiff with the head slightly drawn back. This increased as the disease progressed. He had nausea, and later vomited large quantities of greenish-black fluid. Three days after entrance, the pains extended down the spine and into the legs and to the under side of the arms. On the fifth day after his admission, the headache and pains in the lower extremities were very severe. The discharge had almost ceased. His temperature rose to 102.5°. An ice-cap afforded no relief. On the eighth day he died.

The following statement shows the range of temperature and pulse from the date of entrance into hospital (9th), until his death:

	Temperature.		Pulse.	
	Morning.	Evening.	Morning.	Evening.
9th, . . .	100°	103°	62	86
10th, . . .	101.5°	101.5°	70	96
11th, . . .	98.5°	102.4°	66	80
12th, . . .	99.5°	100.8°	68	84
13th, . . .	102°	102.5°	84	88
14th, . . .	102°	105.4°	100	102
15th, . . .	103.5°	102.5°	106	104
16th, . . .	101.6°	102°	136	114
17th, . . .	99°	100°	112	108

His bowels moved regularly; they were not constipated.

Post-mortem examination, made twenty hours after death.—Skull was very thin at all points. Dura mater apparently normal. Marked congestion of the arachnoid and pia mater, more so on the right side. No evidences of thickening or other disease. Brain normal. No excessive cerebro-spinal fluid.

Region of Right Ear.—Beneath the dura mater covering the petrous portion of the right temporal bone over the middle and internal ear, there was an abscess about an inch long. It communicated by a small opening with the tympanum. At its opposite extremity it opened into the lateral sinus. This was filled with pus from the point of opening to within two inches of the torcular herophili. These two inches were filled with a soft black clot. Below the point of opening to the jugular foramen, there was thick pus and a partly decolorized clot, much firmer than the one extending in the direction of the torcular herophili.

Remarks.—The congestion was active, not passive; it was most marked on the surface of the brain. The large veins were not distended, and there was, consequently, no excess of fluid. The patient's mind was clear to the last. The most marked feature of the case was the emaciation, which was very rapid. An interesting point in connection with the case is the cause of death. It seems to have been due to the entrance of pus into the circulation; in other words, it was probably a case of true pyæmia. He had two marked symptoms of pyæmia—the sallow countenance and the rapid emaciation; besides these he had vomiting. He never had the slightest chill, or the sudden rise and fall of temperature, both so marked in cases of pyæmia. Sweet breath and any external abscesses or lung affection were also absent. I was unable to examine the other organs.

SPECIMENS (LUNGS, HEART, AND KIDNEYS) FROM A CASE OF BRIGHT'S DISEASE.

DR. FREDERICK P. HENRY presented the organs from a typical case of chronic parenchymatous nephritis. The kidneys are slightly enlarged, extremely pale, with marked arborescent vascularity of the surface and with non-adherent capsules. In fact, they represent one of those instances in which the gross appearance suffices for diagnosis. The heart is slightly enlarged, its left ventricle dilated, its walls fatty, and its valves competent. This heart gave rise to no murmur, strictly so called, but did produce in typical degree the sound called by Bouillaud and Potain the *bruit-de-galop*. Potain considers this sound to be diagnostic of interstitial nephritis, but Dr. Henry said that he had invariably encountered it in cases of Bright's disease in which the parenchymatous affection was predominant. The lungs are congested and œdematous throughout. The pleura is greatly thickened on both sides and the pleural cavities abolished, with the exception of the diaphragmatic portion of the right side, which contains a small amount of fluid in the shape of a number of serous-containing loculi. The cause of death was œdema of the lung, and the interesting question arises as to whether œdema of the lungs, which is so common an event in cases of Bright's disease, may not be favored by the obliteration of the pleural cavity, also commonly present in these cases: or, in other words, and conversely, whether the pleural cavity may not serve as an outlet for effusions which, but for its presence, would infiltrate the lung parenchyma.

Although his attention has not been specially directed to the point which he has just raised, and therefore he has no cases other than that just reported to bring forward in its support, he thinks he can state, in general terms, that before œdema of the lungs occurs, in cases with open pleural cavity, that cavity contains a considerable quantity of fluid. That is to say, that its capacity to act as a drain to the lung tissue is exhausted, and it does not at all follow that, for this result to be produced, the pleural sac should be *distended* with fluid. In fact, it would seem that a moderate amount of fluid in the pleural sac may be sufficient to exhaust this conservative power, and this amount varies with the state of the pulmonary circulation.

The view just advanced is in complete harmony with what we know of the physiological function of lymph spaces, among which the large serous sacs are reckoned. The last volume of *Transactions* (Vol. X.) contains a paper upon pleural effusions, in which Dr. Henry argued that any cause which interfered with a proper expansion of the thorax would lead to congestion of the pulmonary capillaries, thereby favoring pleural effusion. The results of capillary congestion vary in different systemic conditions. In Bright's disease, owing to the altered state of the blood, the result is œdema, that is, a serous infiltration of lymph spaces. Effusion into the serous investment of organs such as the lungs and heart, is conservative so far as concerns the parenchyma of these organs. The practical result of these considerations is that œdema of the lung, in cases of Bright's disease, is favored by pleuritic adhesion; and, secondly, that œdema of the lung may, perhaps, be averted by the timely performance of paracentesis.

MYXOMATOUS TUMOR OF THE SUBCUTANEOUS CELLULAR TISSUE OF THE CHEST.

DR. MACCONNELL presented the specimen, which was removed by Dr. Allis[1] at the Jefferson Hospital Clinic one week ago. The patient was a man, aged sixty-three years, who stated that six years ago he had been struck on the side of the chest by a box at a spot corresponding to the site of the tumor. The growth commenced shortly after this traumatism, and at the time of operation was of the size of a pecan nut. The microscopical appearances were somewhat the same as those presented by the specimen presented for him by Dr. Nancrede in December, 1882. The present specimen very beautifully illustrates the transitional stages of the fœtal development of bloodvessels, such as budding, etc. Abundant yellow elastic tissue is also seen. The cells are but faintly stained with picro-carmine, owing to the highly refractive substance of the growth (mucin), rendering the coloring of the nucleus indistinct. Dr. MacConnell thought that the apparent rarity of similar growths was due to the use of alcohol for hardening purposes. If such a reagent be used, only the appearances of a young connective-tissue growth will be detected.

NEW INVENTIONS.

DOUBLE-BLADED SAW, FOR REMOVING PLASTER CASTS.

BY A. H. MEISENBACH, M.D.,
OF ST. LOUIS, MO.

THE instrument consists of two blades (A B,) a shaft (D E), to which the blades are attached, and a handle (F).

The shaft consists of a square part (D) and tapering part (E). The square part D is made in two halves, one half stationary, the other half hinged to stationary part, as shown in Fig. The movable half is kept in position by a spring (C), which has a notch cut in it, and retains the part in position. The blade (A) is attached to the stationary part of the square part of the shaft by two screws, and the blade (B) is similarly attached to the movable part.

The object in constructing it thusly is to allow opening apart of the blades, so as to facilitate cleansing. The blades are 1¾ inches wide, and 2¼ inches long. One side of the saw blade is rounded, the other square; with its rounded side it is possible to saw in angles, as the elbow, over the ankle, etc. The space between the blades is ⅜ inch; the length of shaft is 6½ to 7 inches. The instrument may be made larger if desired; but I find that if the space between the blades is increased, the strip sawn out is somewhat harder to chip out than if it is of the size above described. The saw can be very easily constructed by any instrument maker.

With this instrument I have been enabled to remove plaster of Paris casts much easier and quicker than with anything I have tried. A great objection to plaster shears is that they cannot be used in all situations, and also that there is often not sufficient space between the limb and cast to efficiently insert them, and also that the cutting of the blades is interfered with by clogging by plaster. The saw can be used in all situations, such as bend of elbow, ankle, etc. The mode of using is as follows: Saw down the entire length of the cast to a depth of say ⅓ to ½ inch, then remove the strip thus sawn out with a chisel or any suitable instrument; continue this operation until the entire cast is sawn through, or the portion of cast is reached that is not completely saturated with plaster, and which can readily be cut through by a knife or scissors. When the cast is cut through, it can be removed in the ordinary way, or if it is not desired to remove it, a bandage can be put around it, and thus it can be drawn together, thereby making the cast fit tighter until it is desired to remove it. It is often desirous not to remove the cast, only to tighten it, and for this purpose the saw acts admirably.

CORRESPONDENCE.

CARBOLIC ACID POISONING.

To the Editor of THE MEDICAL NEWS.

SIR: A few days ago I had a chance to study the symptoms of carbolic acid poisoning in two children, the one, a boy of 8 years, and the youngest, a girl of 5 years. They were both troubled with *Oxyuris vermicularis* (thread-worm), and I had prescribed carbolic acid, twenty drops, to be added to a pint of water, and used as an injection. But on account of some misunderstanding, the mother had added a large teaspoonful of the acid (which contained by actual measure seventy drops) to a pint of water. She had given both children the above injection about half-past 7 o'clock A.M., and in about five minutes after the administration of the injection, they both fell asleep, and slept for about twenty minutes. After this they awoke, got up from their bed, talked constantly and incoherently, walked about the room in a very restless manner; very soon their gait became uncertain and unsteady, till, unable to maintain an erect position, they fell upon the floor. They were entirely unconscious, their eyes had a wild and vacant stare, and pupils were much dilated. Their breath was charged with the vapor of carbolic acid. The forehead of both children was hot, extremities, however, were of a normal temperature; the skin was covered with perspiration. The pulse was full and frequent. Even after they had been put to bed, they showed constant muscular agitation, and it appeared that they might have convulsions any moment. They did not appear to suffer any pain.

About 9 o'clock A.M., they became more easy and quiet, the muscular agitation gradually subsided, and they fell into a comatose condition from which they could be roused only with difficulty; when they would open their eyes, still having the same wild and vacant stare. During this state, respiration was somewhat laborious and diminished in frequency. About 11 o'clock A.M., the boy, when roused, appeared to be conscious, but immediately relapsed into a somnolent state.

About one hour later, the girl regained consciousness. Soon after that they commenced to vomit and vomited more or less all day. After that they recovered rapidly.

In regard to the treatment, I wish to add that immediately upon my arrival at the house, I washed out the rectum with an injection of water, soap, and castor oil, and not knowing an antidote for carbolic acid, I administered five drops of spts. aeth. nit. every hour, with the view of eliminating the poison by the kidneys.

Respectfully yours,
H. H. VINKE, M.D.

ST. CHARLES, MO., July 5.

NEWS ITEMS.

NEW YORK.

(From an Occasional Correspondent.)

THE CODE OF ETHICS IN NEW YORK.—The warm weather does not seem to impede the activity of the National Code supporters, who have kindly given the writer access to their papers, which show a steady increase in favor of the American Code. The writer's attention was attracted by a letter lately received, and on inquiring whether others to the same effect had come, was handed a package from which abstracts were made. It soon became evident that many who had hastily given countenance to the New Code, saw that they had made a mistake, and frankly and manfully withdrew their support from the New Code, and transferred it to the National Code.

A few examples are given below.

**, ** COUNTY, July 2, 1883.

"I examined, last week, a circular containing the honorable names of ***, ***, and a number of worthy medical men, who, it seems to me, wish this war stopped by our yielding to the demands of an uneducated, public opinion, and recognize irregulars, etc., as fit for us to consult with on issues of life and death intrusted to our discretion. . . . I have had little time to investigate the question, and have taken much "on faith." I thought, by that array of eminent names, this was no doubt the judicial vote of the majority of our honorable profession, and determined to be reconciled to it, though it was antagonistic in a high degree to my wishes. Therefore it is that I signed the (New Code) paper.

"I have just opened another circular with a list of names of physicians of New York City who wish the National Code of Ethics upheld. . . . When I see in this circular the names of ***, ***, ***, and hosts of others whom I esteem, I feel impelled to write this. I submit to the wisdom of the majority. My decided wish is for the success of the regulars in every contest with ignorance, bigotry, dishonesty, and trickery, whether with the laity or amongst professional quacks.

"Signed, ***, M.D."

**, ** COUNTY, April 23, 1883.

"For the National Code. Reconsidering my first opinion.

"Signed, ***, M.D."

**, ** COUNTY, May 22, 1883.

"I reported, a few days ago, in favor of the 'New Code.' After considering the matter more fully, I wish to place myself on the opposite side, and uphold the National Code.

"Signed, ***, M.D."

NEW YORK, April 26, 1883.

"I was, unfortunately, absent at the last meeting of the County Society when the vote was taken on the Code question. Since then, at the solicitation of a friend, and from a superficial understanding of the case, I signed one of the forms which are being circulated by the 'New Code men;' but from the statement presented by your circular I desire to state most emphatically that I favor the National Code.

"Signed, ***, M.D."

A gentleman, whose name also appears on the "New Code" list, says (April 25, 1883), "most decidedly the Old Code; many more have so decided."

Another says (June 3), . . . "be kind enough to omit my name from any list of subscribers to the 'New Code.' I believe I signed a postal card to such an agreement, but would like to reconsider the matter."

Such cases as the above might be multiplied to a greater extent than space in these columns will permit.

In the defence of their cause, the National party have shown much foresight, thoroughness, and activity, as well as a masterly grasp of the situation, and have made more progress in the last five months than have the "New Code" party in as many years. They began work in the very "camp" of the enemy, and were victorious as soon as organized. Their canvass has been eminently successful, simply because they have sought to learn the sentiment of the whole profession on all sides. The three questions have been uniformly asked, "Are you for the National, the New, or no Code?" Thus giving every one an opportunity to put himself on record. They say that the canvass will be continued until every physician in the State has answered who has a right to be heard. The majority in the State at large is still on the increase, as well as that in the State Society, which is a majority of the entire membership.

Among the warm advocates of the National Code (outside of the city, but in the State of New York) are E. M. Moore, President of the American Surgical Association, and Langworthy and Hovey, of Rochester; Didama and Van De Warker, of Syracuse; Miner, Rochester, and Gay, of Buffalo; Bontecou, Seymour, and Ferguson, of Troy; Hutchison, Squibb, and Segur, of Brooklyn; Churchill, West, and Gray, of Utica; Squire, of Elmira; Hyde, of Cortland; Palmer, of Ontario; Govan, of Rockland; Reynolds, of Saratoga; Wise, of Seneca; Dolson, of Steuben; and hosts of other representative men, well known in and out of the State. These and many others, together with the New York City forces, are the men who will cope with the opposition, and who are determined to uphold the National Code of Ethics, and insure its reënactment in February next.

BROOKLYN.

(From our Special Correspondent.)

DR. THOMAS GALLAHER, not Gallagher, as generally written, who has recently received a life-sentence as one of the leaders in the dynamite conspiracy at London, is a regularly educated physician, having graduated from Bellevue Hospital Medical College in 1879. Soon after taking his degree he made his residence in Greenpoint, and joined the Kings County Medical Society. His appearance was not that of one fitted for stratagem and conspiracy; he was quiet and retiring in disposition apparently. It is generally believed that he has fallen into his distressing position on account of the lot falling to him under the arbitrary rule of some secret society with which he had become entangled.

DR. DAVID B. AUSTIN, of 251 West Twenty-fifth Street, New York, is accused of causing the death of Mrs. Mary Birchley, of Brooklyn, by instrumental abortion. The accusation is based upon the death-bed statement of Mrs. B., but it is claimed by the Doctor that his operation was for the removal of polypus, and not for the purpose of producing premature labor. The case will be watched with much interest by the profession of the locality. Dr. Austin is a graduate of the College of Physicians and Surgeons, New York, Class of 1866, and has borne a good name and character among his fellow-practitioners.

CHICAGO.

(From our Special Correspondent.)

THE PROFESSORSHIP OF SURGERY IN THE BUFFALO MEDICAL COLLEGE has been offered, so it is reported,

to Dr. Roswell Park, of Chicago. Dr. Park is a man of fine attainments, both professional and otherwise, and is at the same time a gentleman of the highest character. He has of late been devoting himself to surgery exclusively; he is one of the surgeons to Michael Reese Hospital, and Lecturer on Surgery in Rush Medical College. Buffalo will be fortunate in such an acquisition.

RUSH MEDICAL COLLEGE is about to build a hospital. The plans are prepared, and the work will be pushed to completion by midwinter. The structure will be located on the north of the College building, and adjoining it, and will have an easy capacity of about fifty beds.

The building has been planned with a view to future enlargement by extensive additions. For this purpose the College has secured a lot of considerable size reaching north of the present hospital site and fronting on Congress Street. It is the design that the hospital shall eventually front on Congress Street. While the hospital is designed to be, to a certain extent, a clinical arm of the College, it is expected that it will be under the direct management of a religious order—two applications having, it is said, been already made for the care of it by such organizations. It will be to a large extent eventually a free hospital.

THE DISTRICT NURSE for the poor has reached Chicago. The scheme begins in a small way with one nurse at the "South Side Dispensary," and one at the "Central Dispensary." These nurses concern themselves with the needs of the out-patients of these dispensaries. They are supported by an organization under the auspices of the "Chicago Society for Ethical Culture." The nurses are to be in every case graduates of some reputable training-school for nurses.

MEDICAL EXPERT TESTIMONY IN THE CHICAGO LARD INVESTIGATION.—The facts involved in the celebrated lard investigation now in progress before the Chicago Board of Trade are, very briefly, as follows:

Mr. Peter McGeoch, a speculator in lard, bought of Messrs. Fowler Bros. 500,000 tierces of prime steam lard, that is to say, pure hog-fat. When the lard was delivered, Mr. McGeoch refused to accept it, claiming that it was adulterated with tallow and cotton-seed oil, and he sought to recover damages before the Directors of the Board of Trade.

The case is of special interest to the medical profession, since the microscope and chemistry will furnish the burden of proof in the decision of the case. The chemist of the prosecution, Mr. Delafontaine, a teacher in the Chicago High School, testified that he had discovered (1) tallow and (2) cotton-seed oil in the prime steam lard of Messrs. Fowler Bros. Mr. Delafontaine's test for (1) tallow in the presence of lard is the stearin test, and is based upon the assertion that tallow contains more stearin than lard. A portion of the suspected lard is treated with 9 to 10 volumes of sulphuric ether and absolute alcohol, equal parts; the mixture is well shaken up and allowed to stand for 24 hours, when the stearin (?) is said to crystallize out; the supernatant fluid is decanted, and the residuum washed with the alcohol and ether solution, filtered, dried, and weighed. Pure lard, according to Mr. Delafontaine, contains 1 per cent. stearin, while tallow contains a much higher percentage. Mr. Delafontaine found in the suspected specimens of lard examined from 3 to 5 per cent. stearin, and concluded that the article was adulterated with tallow.

The chemists for the defence, Profs. Remsen, Doremus, Witthaus, Sharpless, Habersham, and Haines, have abundantly demonstrated the unreliability of the stearin test. It has been found impossible to determine the average quantity of stearin in lard and tallow. Profs. Doremus and Haines, in examining different specimens of pure lard, obtained results varying as much as 800 per cent. They established the fact that Mr. Delafontaine's standard of stearin in lard was entirely too low; that lard always contains from 3 to 5 per cent., and more frequently exceeds this amount. They found that the suspected lard of Messrs. Fowler Bros. contained from 3 to 5 per cent. stearin. They demonstrated that a mixture of lard and tallow, according to the stearin test, actually contained less stearin than pure lard.

The conclusion of these eminent chemists is substantially the opinion of Prof. Allen England, one of the greatest living authorities upon commercial organic analysis, who says that it is impossible to determine by a chemical analysis whether a given fat comes from a hog or a beef.

Mr. Delafontaine testified to the presence of the second alleged adulteration—cotton-seed oil, upon the strength of the elaidin test. This test is based upon the fact that when olein is acted upon by nitrogen peroxide (N_2O_4), it is converted into a solid mass, called elaidin. Non-drying oils, of which olive oil is typical, when acted upon by nitrogen peroxide, are converted into elaidin; drying oils, of which linseed oil is typical, are affected very slightly; cotton-seed oil is affected to an intermediate degree. As Mr. Delafontaine performed the test, a portion of the suspected lard was tread with absolute alcohol (which dissolves out the olein but has no effect upon palmitin and stearin), the supernatant fluid was decanted, evaporated down, and treated with nitrogen peroxide (N_2O_4). The specimen became partially solid, and it was inferred that it contained cotton-seed oil.

The chemists for the defence proved the utter fallacy of the elaidin test, and the falsity of all inferences from such data. Two specimens, one of pure lard, the other pure lard with 10 per cent. cotton-seed oil added, were treated according to the method of the elaidin test. The mixture of lard and cotton-seed oil solidified more rapidly than the pure lard. Three specimens of the suspected lard and one specimen of pure lard solidified with the same degree of rapidity.

The absence of cotton-seed oil was absolutely demonstrated by a number of tests, of which the most important were the sulphuric acid and nitric acid color-tests of Prof. Sharpless. These color reactions do not depend upon impurities in the oil, as has been asserted, but are perfectly characteristic with bleached oils, or cotton-seed stearin.

The microscopical evidence, adduced for the prosecution by Mr. Hirsch, as to the presence of cotton-seed oil, was of a trivial character. Mr. Hirsch testified that he had discovered, by the aid of a magnifying glass, a cotton fibre in the suspected lard and asserted from this fact the presence of cotton-seed oil. Mr. Hirsch's testimony was rendered invalid by the defence upon the ground (1) that it requires a magnifying power of at least 50° to 60° to recognize with accuracy a cotton fibre, while the magnifier of Mr. Hirsch had a power of 6° to 8°; (2) that cotton fibres were floating in the atmosphere, and their presence in the lard was accidental.

Dr. W. T. BELFIELD, Director of the Microscopical Laboratory in Rush Medical College, was retained for the defence, at Prof. Haines' suggestion, upon the 12th of June. He furnished, by means of his microscope, the clearest and most convincing evidence for the defence. Apart from the value of his testimony in this particular case, he has made a discovery of importance in the field of microscopic investigation.

By dissolving fats in ether and allowing them to

crystallize out, crystals characteristic of lard and tallow can be obtained. The crystals from an ethereal solution of lard are rhomboidal plates with bevelled ends, while those from an ethereal solution of tallow are plume-shaped, and curved in the form of the italic *f*.

Dr. Belfield dissolves 10 grains of lard in f℥ij Squibb's ether, and the solution is permitted to stand twenty-four hours, when the crystallization is complete. The crystals may be examined in alcohol or perfectly dry. The chemical composition of these crystals has not been determined, as yet, and no theory as to their nature is advanced.

Twelve lettered specimens of lard were submitted to Dr. Belfied for examination, by Dr. Tilly, who kept a careful record of the letters. The results of Dr. Belfield's examination coincided exactly with Dr. Tilly's list. Three of the specimens, pronounced by Dr. Belfield, to be free from tallow crystals, were taken from the suspected lard of Messrs. Fowler Bros.

Dr. Belfield has prepared microphotographs of the lard and tallow crystals, as well from pure as adulterated specimens, and has presented them for inspection to the Directors of the Board of Trade. He states that the characteristic crystals of tallow can be certainly discovered, when the admixture of this fat with lard amounts to five per cent. by weight; that he has reason to believe that even smaller admixtures—say two or three per cent.—can be detected with equal certainty, although he has not as yet had time to establish this latter point beyond possibility of doubt. For this is an entirely new question in science; there is no record of microscopical research upon this subject, and in the few weeks that have elapsed since this trial began, no time has been found sufficient for an exhaustive study of these crystals.

THE ST. LOUIS MEDICAL SOCIETY AND THE REVISION OF THE CODE OF ETHICS.—It will be remembered that at the late meeting of the American Medical Association, Dr. Pollak, of St. Louis, on behalf of the St. Louis Medical Society, moved the appointment of a committee to revise the Code of Ethics, which motion was promptly laid on the table. It now appears that this resolution was not authorized by the St. Louis Medical Society, and that Dr. Pollak presented it without consulting his brother delegates. At a late meeting, the St. Louis Medical Society repudiated and condemned the action of Dr. Pollak, with only two dissenting votes.

PUBLIC HEALTH IN CONNECTICUT.—The monthly report for May of the State Board of Health states that there has not been that marked prominence in any class of diseases that was so marked a feature of the last few months. If consumption be included, however, diseases of the lungs and respiratory system generally still hold the first rank. From all parts of the State, reports of pneumonia are made, with a greater mortality than commonly accompanies this disease, usually added to the statement of its prevalence. In many places, a great increase during May is reported, and generally bronchitis, influenza, catarrhal affections, and tonsillitis are included. Although pneumonia occurs more or less all the year through, still there has been decidedly more than usual for the season. The spring has been unfavorable to consumptives. Several cases of pleurisy and an unusual prevalence of bronchitis are also reported.

As was the case last year, the increased mortality is largely caused by climatic causes over which we have no control. The marked tendency, however, shown by diseases to take on an epidemic character should warn us in time to take every possible precaution against the introduction of cholera.

Measles has continued to prevail very extensively, and has spread from place to place, often followed by severe bronchial complications or whooping-cough, as in Monroe, where three fatal cases were due to pneumonia complicating measles. Measles is reported as very prevalent in Mystic Bridge and Thomaston, in the latter place extending more to the outlying parts of the town and the farm-houses. There has also been almost an epidemic in Winsted. The disease is also reported from South Britain, Suffield, Bloomfield, Guilford, and Hartford, in the latter place quite prevalent. Whooping-cough is quite prevalent in the southern part of the State, and generally wherever measles prevails. Scarlet fever reappeared in Hartford, and diphtheria late in the month to some degree. A case of scarlet fever was reported from Guilford, a few in Haddam, quite a number in Berlin, and of a severe type—one fatal. A case of diphtheria was also mentioned; two or three cases of each were reported from North Manchester; several of scarlet fever from South Manchester, and one fatal case of croup. Scarlet fever is also reported from Greenwich. In Mystic Bridge, Thomaston, Montville, South Britain, a mild type exists; also in Willimantic, Suffield, and Bloomfield; one fatal case is reported from the latter place. Diphtheria is not as prevalent as in previous months of the year. A few cases are reported from Hampton, Wallingford, Westport, and Bloomfield. Croup is fully as often reported as diphtheria, but not so many cases in each locality. Whooping-cough was quite prevalent in Suffield and Monroe.

Malarial diseases are becoming more prominent. The commoner forms are dumb ague and malarial fevers, together with the chronic, ill-defined forms, but occasionally a case of congestive chills is seen.

The eastern part of the State has not as yet been included in the malarial territory, although the line has been pushed to the eastward, and the disease has crept up the border towns at the southeastern end of the State, still there is no general prevalence, even where cases have occurred. Generally, where the disease has secured a footing, reports of a greater prevalence are made—that is, comparing the frequency with that of the preceding months. If last year's reports are taken as a standard, a marked falling off is seen, with exceptions, and especially in the mortality. This, apparently, reached its acme in Connecticut in 1881, for last year shows a decrease of nearly a hundred in the deaths from malarial diseases, and a considerable increase in the mortality from typhoid fever.

MILITARY VERSUS CIVIL SANITARIANS.—A storm has been recently developed in sanitary circles in Bridgetown, Barbados, which has its amusing points, as showing the mistakes into which a sanitarian and even a board of health may be led when a little temper is permitted to sit at the council. It appears that a main road leading into Bridgetown passes through the garrison, and that it occurred to the senior medical officer of the latter that the establishment of a public latrine and urinals on this road would prevent the indiscriminate use of waste lands in the vicinity as depositories of the natural wastes of country people passing to and from the city. In May, 1882, he therefore made a courteous enough application to have the city authorities erect these conveniences with a view to improve the sanitary condition of the garrison and its environs. This communication found its way to the Board of Sanitary Commissioners, through the various offices of the military commander, the colonial secretary, and the governor, and here it remained pigeon-holed for several months, until the senior medical officer, having lost patience, succeeded in getting the colonial secre-

tary to inquire into its fate. The Sanitary Commissioners replied in October that the inspector of the district had been unable to discover any nuisances, and that the Board could not see that any sanitary benefit would result from carrying out the recommendation of the senior medical officer. A conciliatory clause was added that the inspector of police had been directed to coöperate with the military authorities in suppressing nuisances in the vicinity of the garrison.

The senior medical officer immediately returned to the attack. Were it not for the responsible position he held, and the trust that had been reposed in him by his Sovereign to look after the health of her troops, he might be content to fold his hands and say, "All right," let things be; but his duty would not allow him to do this, and he must remonstrate in the most forcible, while respectful manner against the assumption of gentlemen whose experience must be very limited compared to his. As public latrines did not exist on the island, their utility could only be a matter of surmise on the part of the Commissioners, while his personal experience of them ranged from end to end of the British Empire in India. The commanding officer, from his recent service in Bombay, could, he was sure, bear him out as to the present sanitary condition of that city, due to its public latrines, although formerly it was as remarkable for its filth, as Bridgetown and its vicinity. "The stench is so great along the Hastings Road as to be sickening. How can it be otherwise? Considering the influx of thousands of people daily from the country to the town. How are the calls of nature to be attended to? Is it not plain that the people must obey these calls? and it is equally plain that those in authority must make provision for these necessities. Is the Inspector-General of Police to have the guardrooms provided with commodes, etc., to meet the demands thus made upon him," etc. He has further to add, that it is incumbent on him to forward copies of the correspondence on these subjects to the Director-General of the Army Medical Department, who may very likely consider it his province to represent to the Secretary of State for War, the inexpediency of sending white troops to this island whilst it is allowed to remain in its present insanitary condition.

The threat of having the garrison removed leads the Governor to remark: "The question is assuming rather important proportions; send the papers to the Board of Health." This was done, and in March of the present year the Board elaborated an opinion, in the form of a letter to the Governor, which extends through three issues of the *Official Gazette*—April 2, 3, and 5—to the effect that latrines erected on the roadway would be prejudicial to the public health. The Board does not pretend to have the *extensive personal experience* of the senior medical officer; but, being natives, its members have a *personal* knowledge of the place and people. It brings forward Parkes, Murchison, and others in support of its opinion; as thus, in objecting to the latrines: "Prof. Parkes lays it down distinctly that the localizing causes of yellow fever are evidently connected with the accumulation of excreta around dwellings." On the other hand, in favor of the Bridgetown method of segregated droppings, the same eminent authority is quoted: "Owing doubtless to the rapid movement of the air, there is no doubt that the excreta of man and animals, thrown on the ground and exposed to the open air, are less hurtful than sewer air, and probably in proportion to the dilution." The bad odors complained of by the senior medical officer, are by inference acknowledged, because they are defended by another quotation from Parkes: "In China, where fecal matter is so constantly applied in agriculture, the air is often filled with very pungent effluvia, yet no bad effect is produced."

But it is in respect to the odious comparison as to cleanliness between Bridgetown and Bombay, and the charge of unhealthiness against the former city that the Board of Health develops its energies. We now find the cause of the long delay in rendering the opinion. The books and reports required to furnish the necessary data were not obtainable on the Island, and had to be imported from England. On their arrival no time was lost. Tables of comparative statistics follow each other for many pages of the *Official Gazette*. The Board is not satisfied with proving that, for healthiness, the Island will compare favorably with the principal towns of the United Kingdom. It proves that, as a station for white troops, it is not surpassed in healthfulness by any station of the British army, *either in or out of the United Kingdom*.

Then feeling confident in the result of its labors, it dares the issue with the senior medical officer, by requesting that copies of the papers be sent to the Secretary of State for War, and to the Secretary of State for the colonies.

Appended by way of a *coup de grace* to the senior medical officer, is an extract from a report of the Civil Sanitary Inspector, dated April, 1882, *i. e.*, prior to the commencement of the correspondence, showing the insanitary condition of the women's latrines at the artillery barracks.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending June 30, 1883, indicate that bronchitis has considerably decreased; that typho-malarial fever, influenza, rheumatism, diarrhœa, intermittent fever, pneumonia, and measles have decreased in area of prevalence. There was no marked increase of any disease reported.

Compared with the average for the month of June in the preceding six years, measles and bronchitis were reported more prevalent; and intermittent fever, remittent fever, whooping-cough, and consumption, less prevalent during the month of June, 1883.

Including reports by regular observers and by others, diphtheria was reported present during the week ending June 30, and since, at 11 places; scarlet fever at 22 places; and measles at 17 places.

OBITUARY RECORD.—DIED suddenly in New York on July 8th, JOHN A. LIDELL, M.D., aged 60 years.

Dr. Lidell graduated from the Albany Medical College in 1848. He distinguished himself during the late war by his conscientious and indefatigable service as Inspector-General of the Medical Staff of the Army of the Potomac. At the close of the war he resigned and settled in New York. As a careful student, observer, and writer Dr. Lidell has achieved permanent reputation. His contributions to the pages of the AMERICAN JOURNAL OF THE MEDICAL SCIENCES were numerous and valuable, and the last number contains an able and thoughtful article on *Contusions of the Brain and Spinal Cord*, which is probably the last contribution to our literature from his pen.

NOTES AND QUERIES.

CORRIGENDUM.

IN the issue of July 7, page 21, second column, first line, for "hours" *read* "days."

OFFICIAL LIST OF CHANGES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 2 TO JULY 9, 1883.

RAYMOND, HENRY I., *First Lieutenant and Assistant Surgeon.* Granted leave of absence from July 4, 1883, to September 1, 1883, with permission to go beyond sea, and resignation accepted, to take effect September 1, 1883.—*S. O. 150, A. G. O., June* 30, 1883.